



World Health
Organization

World Health organization/ International Society of Hypertension (WHO/ISH) risk prediction charts

for 14 WHO epidemiological sub-regions (charts in colour)

WHO/ISH Risk prediction charts

for 14 WHO epidemiological sub-regions

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1. Introduction

These charts indicate 10-year risk of a fatal or non-fatal major cardiovascular event (myocardial infarction or stroke), according to age, sex, blood pressure, smoking status, total blood cholesterol and presence or absence of diabetes mellitus for 14 WHO epidemiological sub-regions.

There are two sets of charts. One set can be used in settings where blood cholesterol can be measured. The other set is for settings in which blood cholesterol cannot be measured. Both sets are available according to the 14 WHO epidemiological sub-regions.

Each chart can only be used in countries of the specific WHO epidemiological sub-region, e.g. The charts for South East Asia sub-region B (SEAR B) can only be used in Indonesia, Sri Lanka and Thailand.

The list of WHO/ISH risk prediction charts by epidemiological sub-regions and the Member States in which they can be used are shown in table 1.

Table 1. List of WHO/ISH risk prediction charts by epidemiological sub-regions¹ and WHO Member States

WHO/ISH risk prediction charts by epidemiological sub-regions		WHO Member States
Africa	AFR D	Algeria, Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, Sao Tome And Principe, Senegal, Seychelles, Sierra Leone, Togo
	AFR E	Botswana, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of The Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
The Americas	AMR A	Canada*, Cuba, United States of America*
	AMR B	Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts And Nevis, Saint Lucia, Saint Vincent and The Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela
	AMR D	Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru
Eastern Mediterranean	EMR B	Bahrain, Iran (Islamic Republic of), Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates
	EMR D	Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, Sudan, Yemen
Europe*	EUR A	Andorra, Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom
	EUR B	Albania, Armenia, Azerbaijan, Bosnia And Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan
	EUR C	Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine
South-East Asia	SEAR B	Indonesia, Sri Lanka, Thailand
	SEAR D	Bangladesh, Bhutan, Republic of Korea, India, Maldives, Myanmar, Nepal
Western Pacific	WPR A	Australia*, Brunei Darussalam, Japan, New Zealand*, Singapore
	WPR B	Cambodia, China, Cook Islands, Republic of Korea, Fiji, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam

¹ Mortality strata: A: very low child mortality and very low adult mortality; B: low child mortality and low adult mortality; C: low child mortality and high adult mortality; D: high child mortality and high adult mortality; E: high child mortality and very high adult mortality.

* Appropriate risk prediction charts already available

2. Instructions on how to use WHO/ISH (World Health Organization/International Society of hypertension) risk prediction charts

The charts provide approximate estimates of cardiovascular disease (CVD) risk in people who do not have established coronary heart disease, stroke or other atherosclerotic disease. They are useful as tools to help identify those at high cardiovascular risk, and to motivate patients, particularly to change behaviour and, when appropriate, to take antihypertensive, lipid-lowering drugs and aspirin.

How do you use the charts to assess cardiovascular risk?

- First make sure that you select the appropriate charts using information in table 1
- If blood cholesterol cannot be measured due to resource limitations, use the charts that do not have total cholesterol
- Before applying the chart to estimate the 10-year cardiovascular risk of an individual, the following information is necessary
 - Presence or absence of diabetes¹
 - Gender
 - Smoker or non-smoker
 - Age
 - Systolic blood pressure²
 - Total blood cholesterol (if in mg/dl divide by 38 to convert to mmol/l)

Once the above information is available proceed to estimate the 10-years cardiovascular risk as follows.

Step 1 Select the appropriate chart depending on the presence or absence of diabetes¹

Step 2 Select male or female tables

Step 3 Select smoker or non smoker boxes³

Step 4 Select age group box (if age is 50-59 years select 50, if 60-69 years select 60 etc)

Step 5 Within this box find the nearest cell where the individuals systolic blood pressure (mm Hg) and total blood cholesterol level (mmol/l)⁴ cross. The colour of this cell determines the 10-year cardiovascular risk.

1. A person who has diabetes is defined as someone taking insulin or oral hypoglycaemic drugs, or with a fasting plasma glucose concentration above 7.0 mmol/l (126 mg/dl) or a postprandial (approximately 2 hours after a main meal) plasma glucose concentration above 11.0 mmol/l (200 mg/l) on two separate occasions). For very low resource settings urine sugar test may be used to screen for diabetes if blood glucose assay is not feasible. If urine sugar test is positive a confirmatory blood glucose test need to be arranged to diagnose diabetes mellitus.

2. Systolic blood pressure, taken as the mean of two readings on each of two occasions, is sufficient for assessing risk but not for establishing a pretreatment baseline.

3. All current smokers and those who quit smoking less than 1 year before the assessment are considered smokers for assessing cardiovascular risk.

4. The mean of two non-fasting measurements of serum cholesterol by dry chemistry, or one non-fasting laboratory measurement, is sufficient for assessing risk.

Practice points





Please note that CVD risk may be higher than indicated by the charts in the presence of the following:

- already on antihypertensive therapy
- premature menopause
- approaching the next age category or systolic blood pressure category
- obesity (including central obesity);
- sedentary lifestyle;
- family history of premature coronary heart disease (CHD) or stroke in first degree relative (male < 55 years, female < 65 years);
- raised triglyceride level (>2.0 mmol/l or 180 mg/dl);
- low HDL (high density lipoprotein) cholesterol level (< 1 mmol/l or 40mg/dl in males, < 1.3 mmol/l or 50 mg/dl in females);
- raised levels of C-reactive protein, fibrinogen, homocysteine, apolipoprotein B or Lp(a), or fasting glycaemia, or impaired glucose tolerance;
- microalbuminuria (increases the 5-year risk of diabetics by about 5%) (38, 83, 85);
- raised pulse rate.
- socioeconomic deprivation

Risk levels

The colour of the cell indicates the 10-year risk of combined myocardial infarction and stroke risk (fatal and non-fatal) as shown below.

10-year combined myocardial infarction and stroke risk (fatal and non-fatal)

	Green	<10%
	Yellow	10% to <20%
	Orange	20% to <30%
	Red	30% to <40%
	Deep Red	≥ 40%

3. Africa

WHO sub-regions AFR D, AFR E

Charts in colour for use in settings where total blood cholesterol can be measured

Figure 1. WHO/ISH risk prediction chart for AFR D

Figure 2. WHO/ISH risk prediction chart for AFR E

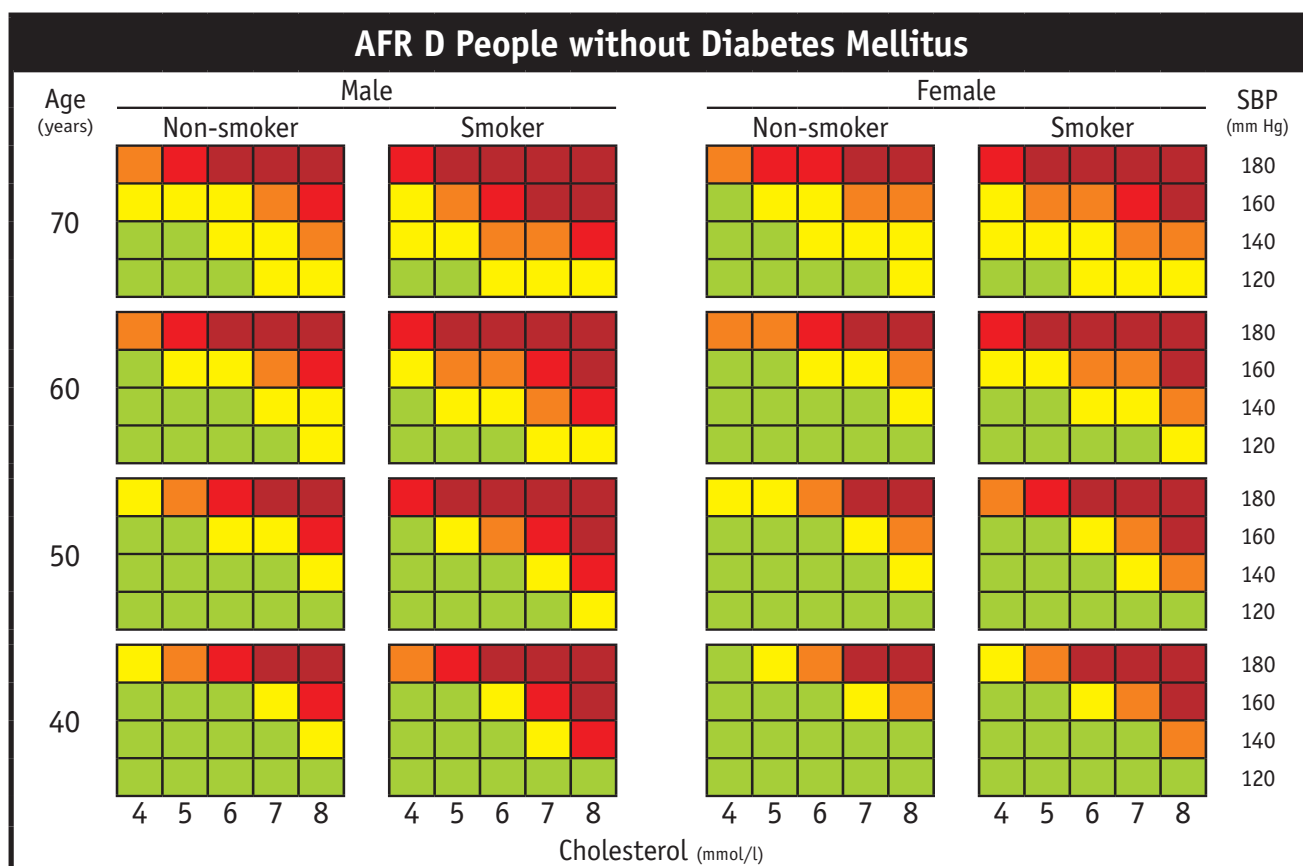
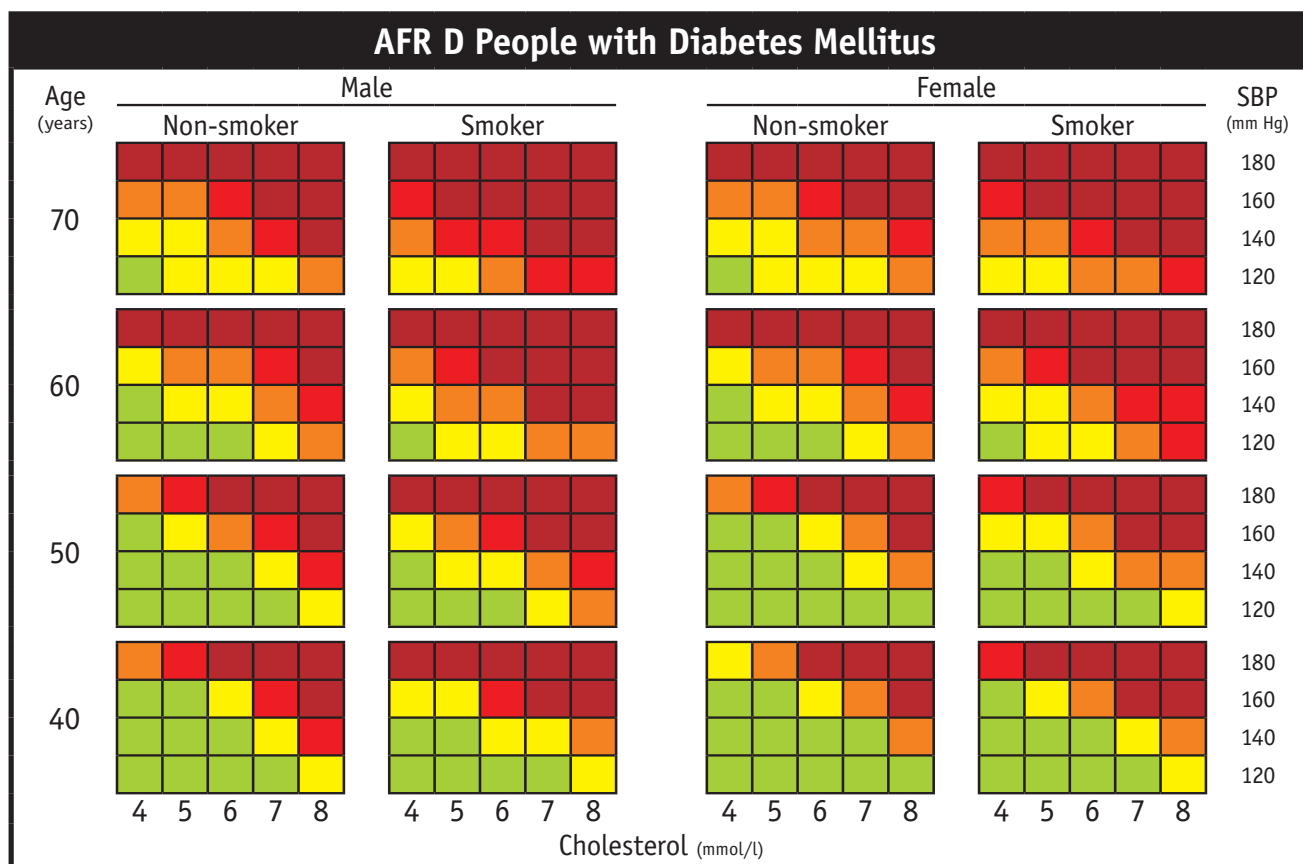
Charts in colour for use in settings where total blood cholesterol cannot be measured

Figure 3. WHO/ISH risk prediction chart for AFR D

Figure 4. WHO/ISH risk prediction chart for AFR E

Figure 1. WHO/ISH risk prediction chart for AFR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

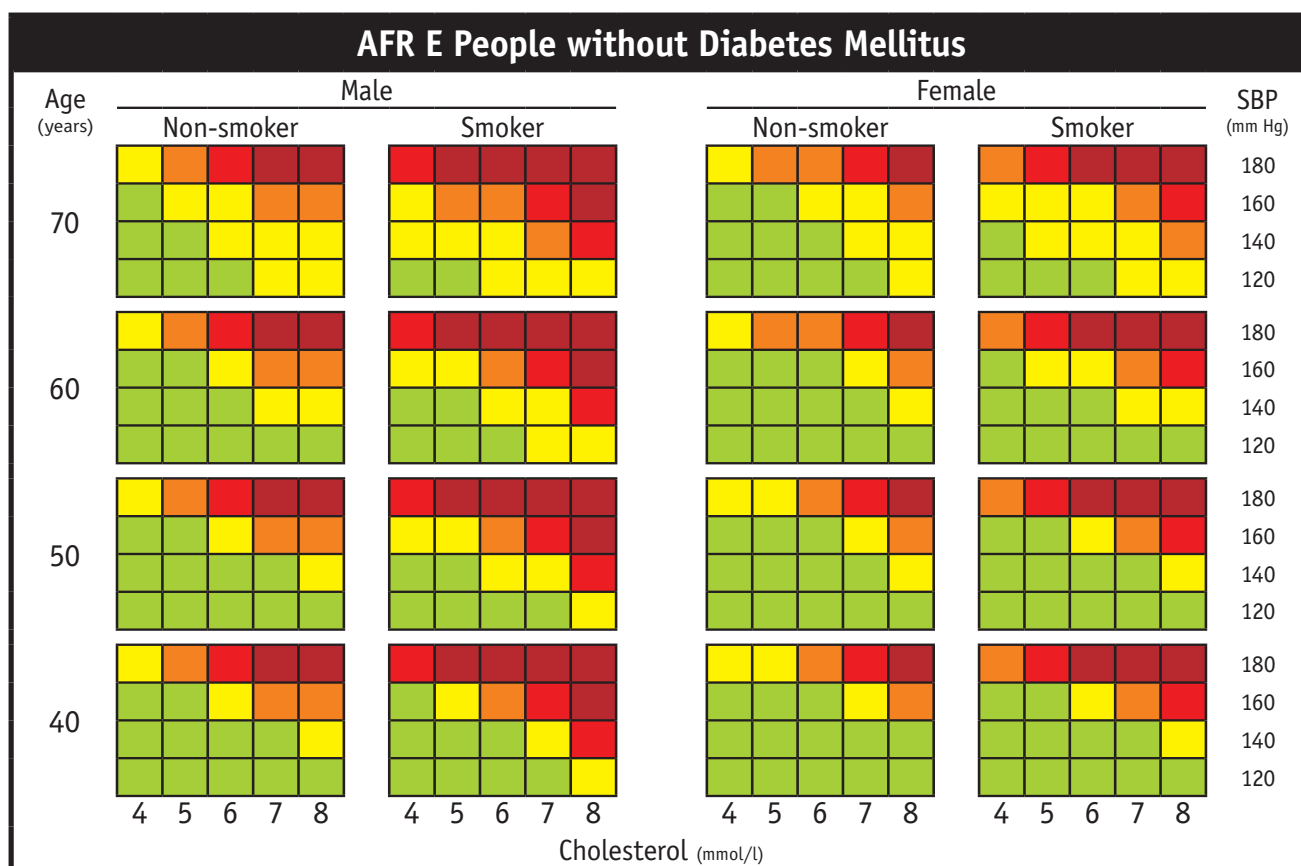
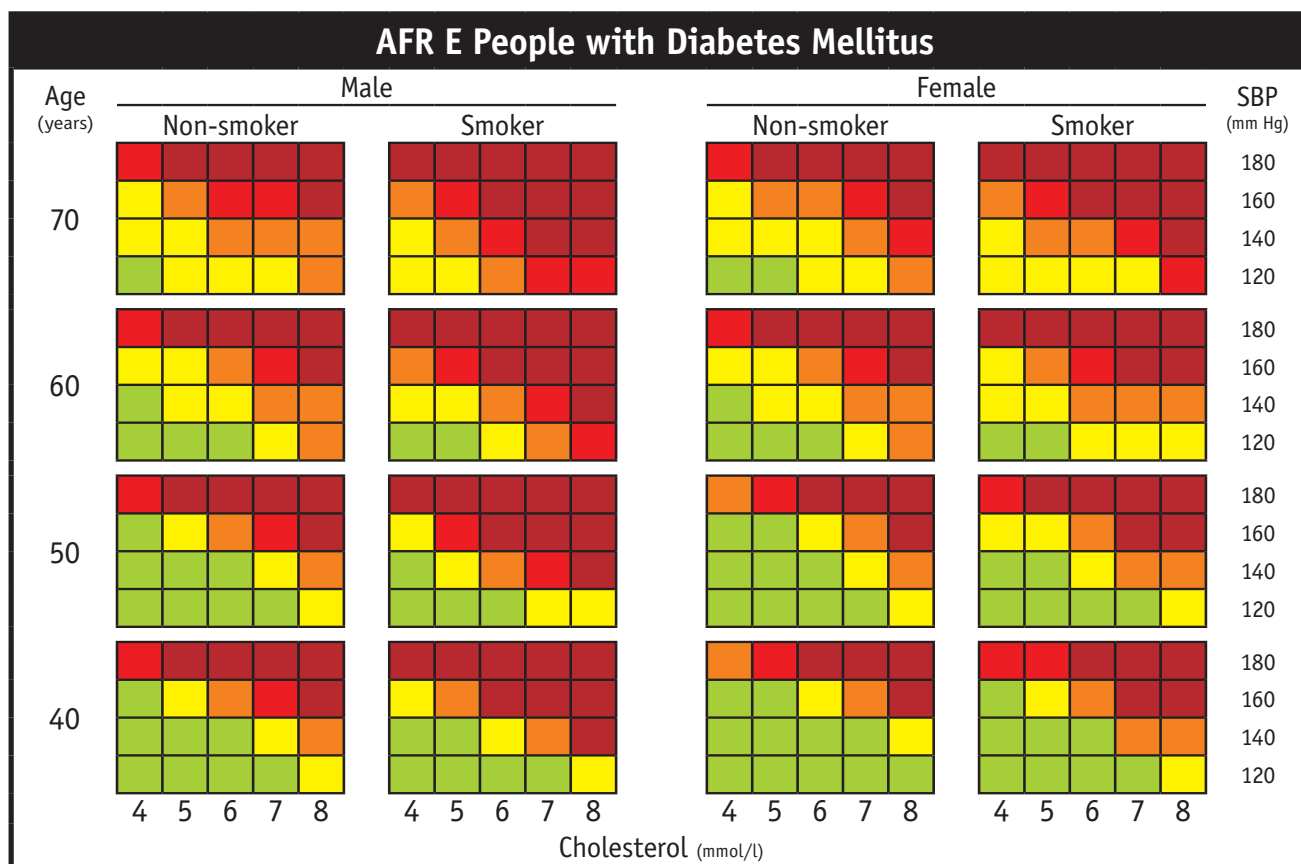
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Africa, sub-region D, in settings where blood cholesterol can be measured (Algeria, Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, Sao Tome And Principe, Senegal, Seychelles, Sierra Leone, Togo).

Figure 2. WHO/ISH risk prediction chart for AFR E. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

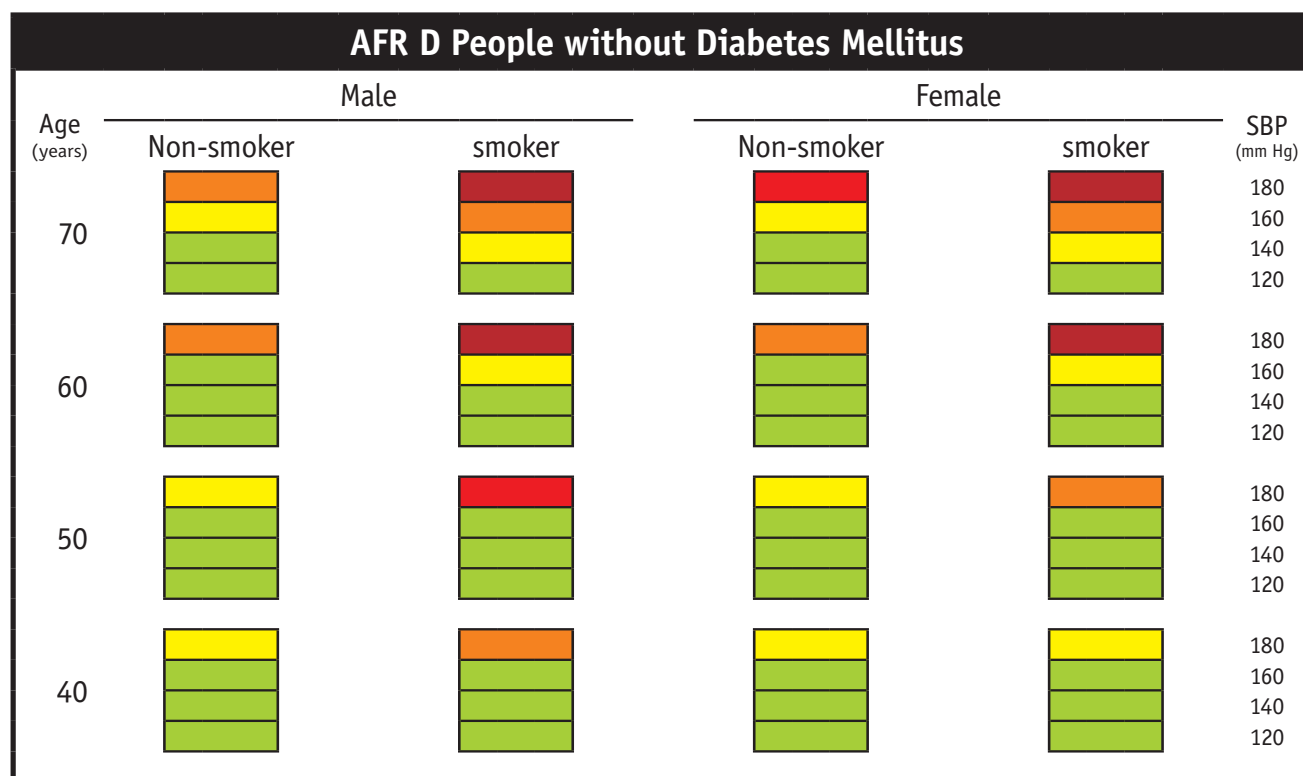
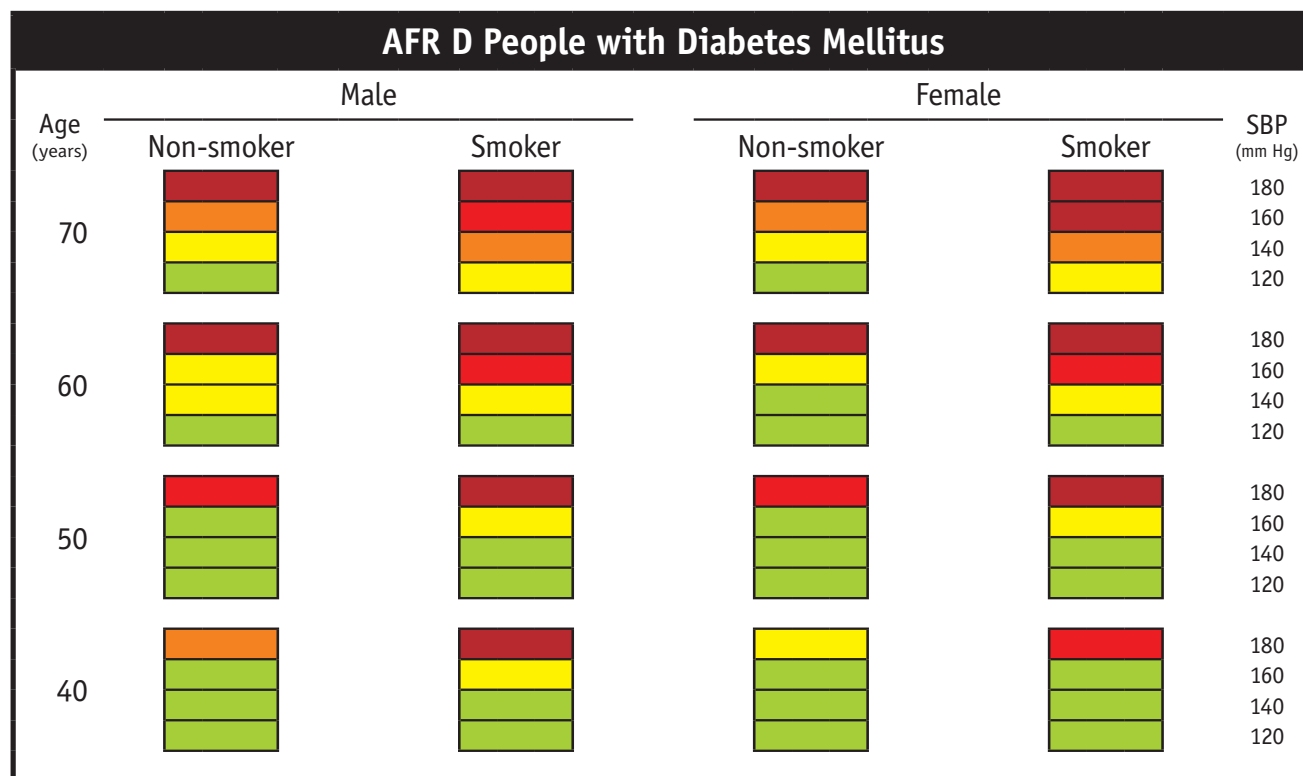
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Africa, sub-region E, in settings where blood cholesterol can be measured (Botswana, Burundi, Central African Republic, Congo, Cote d'Ivoire, Democratic Republic of The Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe).

Figure 3. WHO/ISH risk prediction chart for AFR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

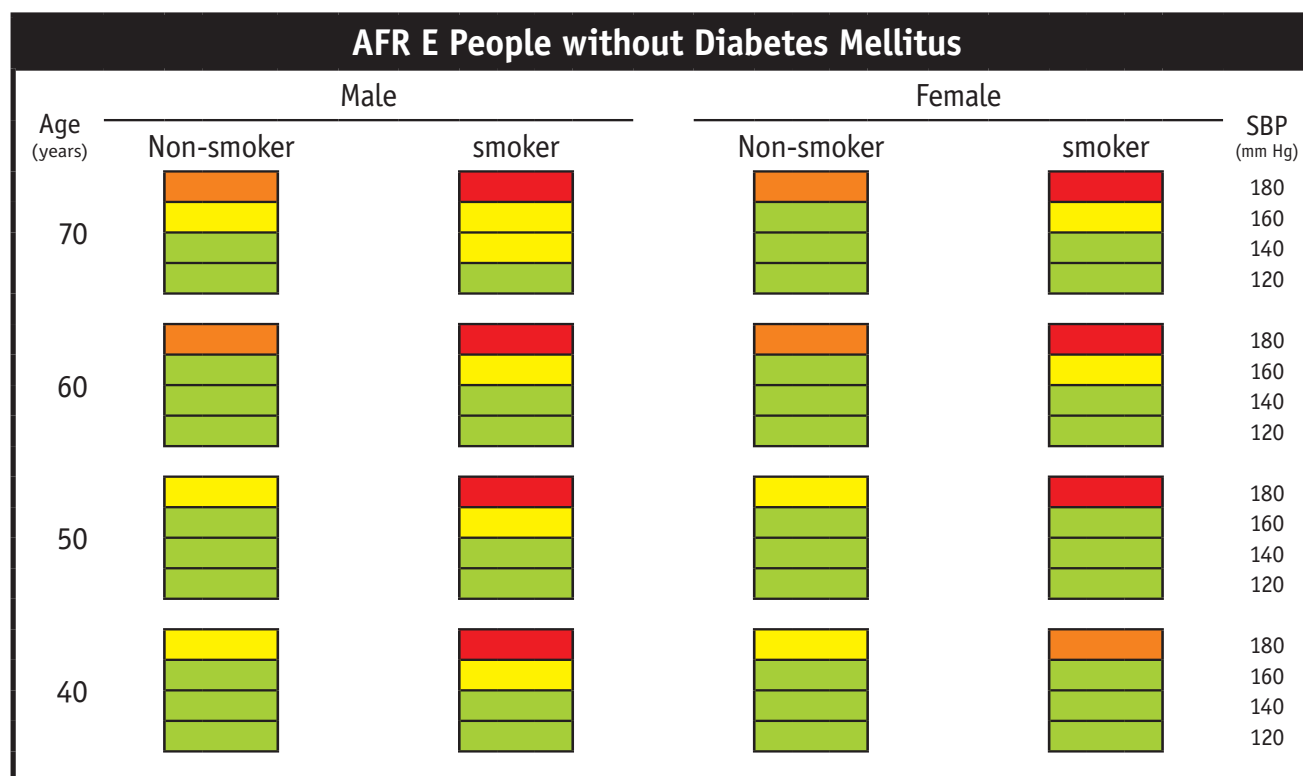
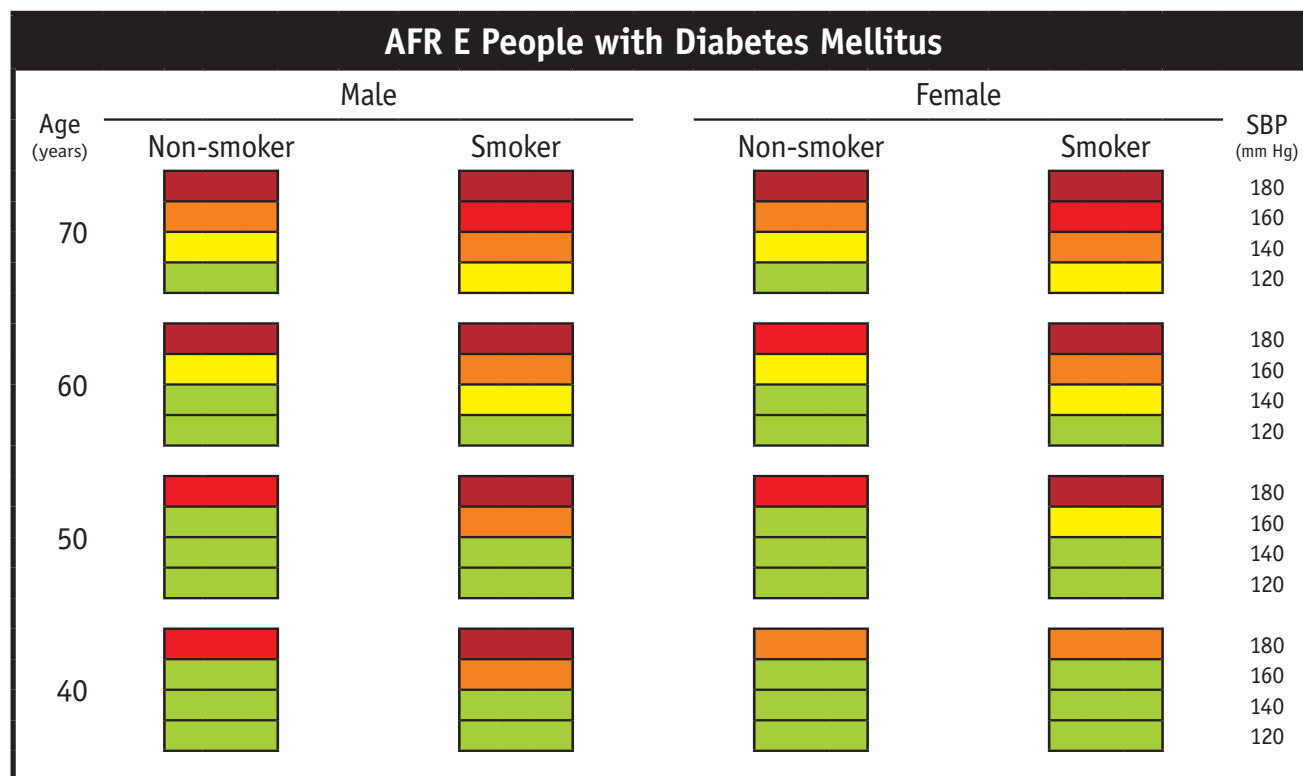
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Africa, sub-region D, in settings where blood cholesterol CANNOT be measured (Algeria, Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, Sao Tome And Principe, Senegal, Seychelles, Sierra Leone, Togo).

Figure 4. WHO/ISH risk prediction chart for AFR E. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Africa, sub-region E, in settings where blood cholesterol CANNOT be measured (Botswana, Burundi, Central African Republic, Congo, Cote d'Ivoire, Democratic Republic of The Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe).

4. The Americas

WHO sub-regions AMR A, AMR B, AMR D

Charts in colour for use in settings where total blood cholesterol can be measured

Figure 5. WHO/ISH risk prediction chart for AMR A

Figure 6. WHO/ISH risk prediction chart for AMR B

Figure 7. WHO/ISH risk prediction chart for AMR D

Charts in colour for use in settings where total blood cholesterol cannot be measured

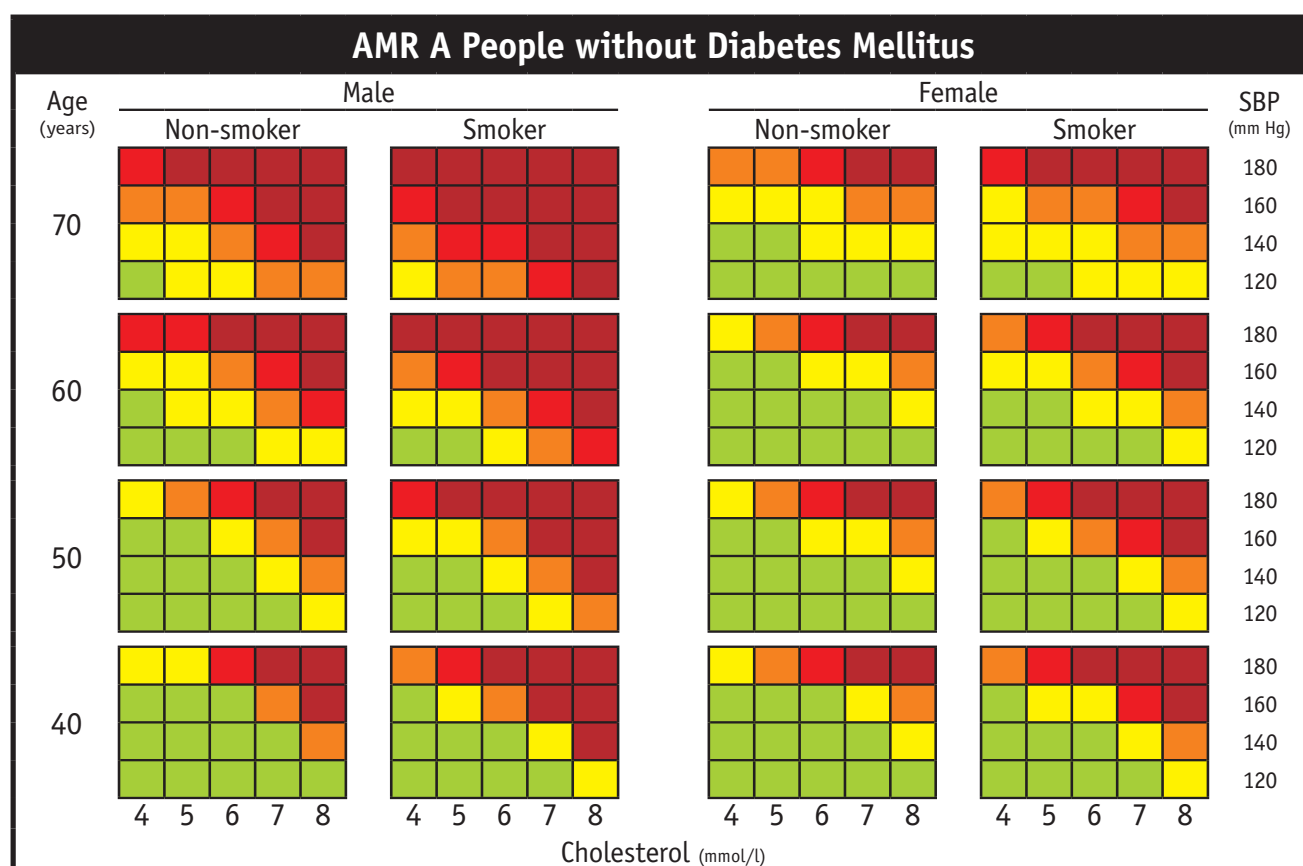
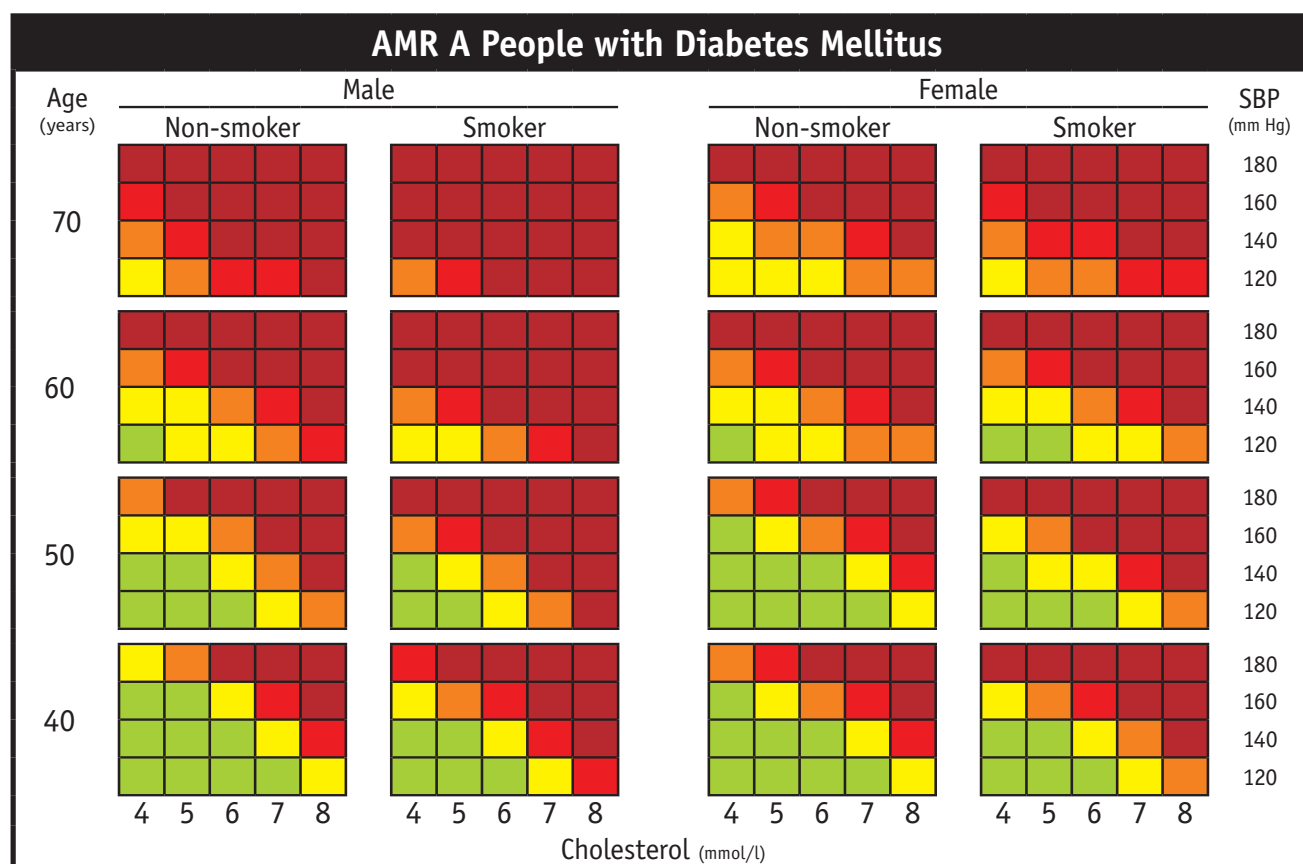
Figure 8. WHO/ISH risk prediction chart for AMR A

Figure 9. WHO/ISH risk prediction chart for AMR B

Figure 10. WHO/ISH risk prediction chart for AMR D

Figure 5. WHO/ISH risk prediction chart for AMR A. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

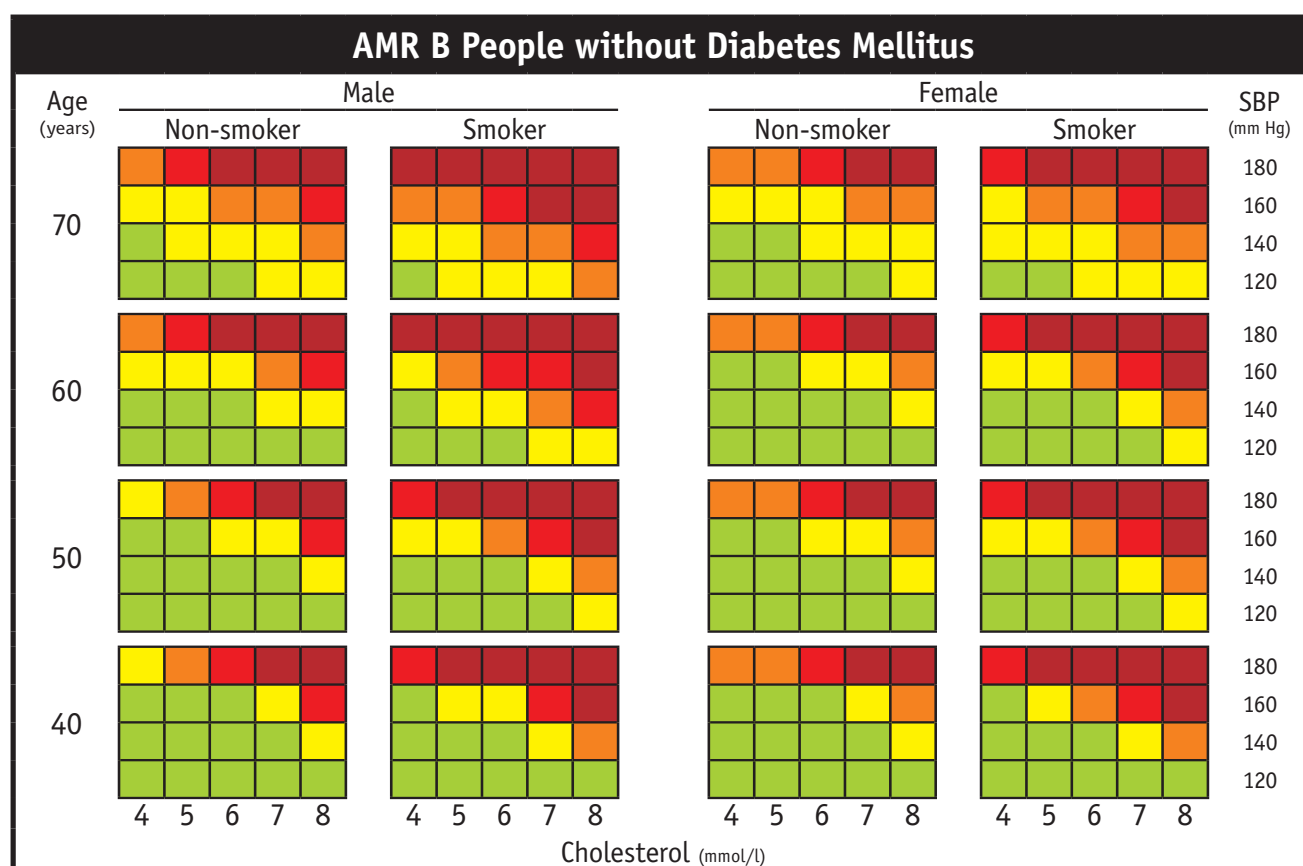
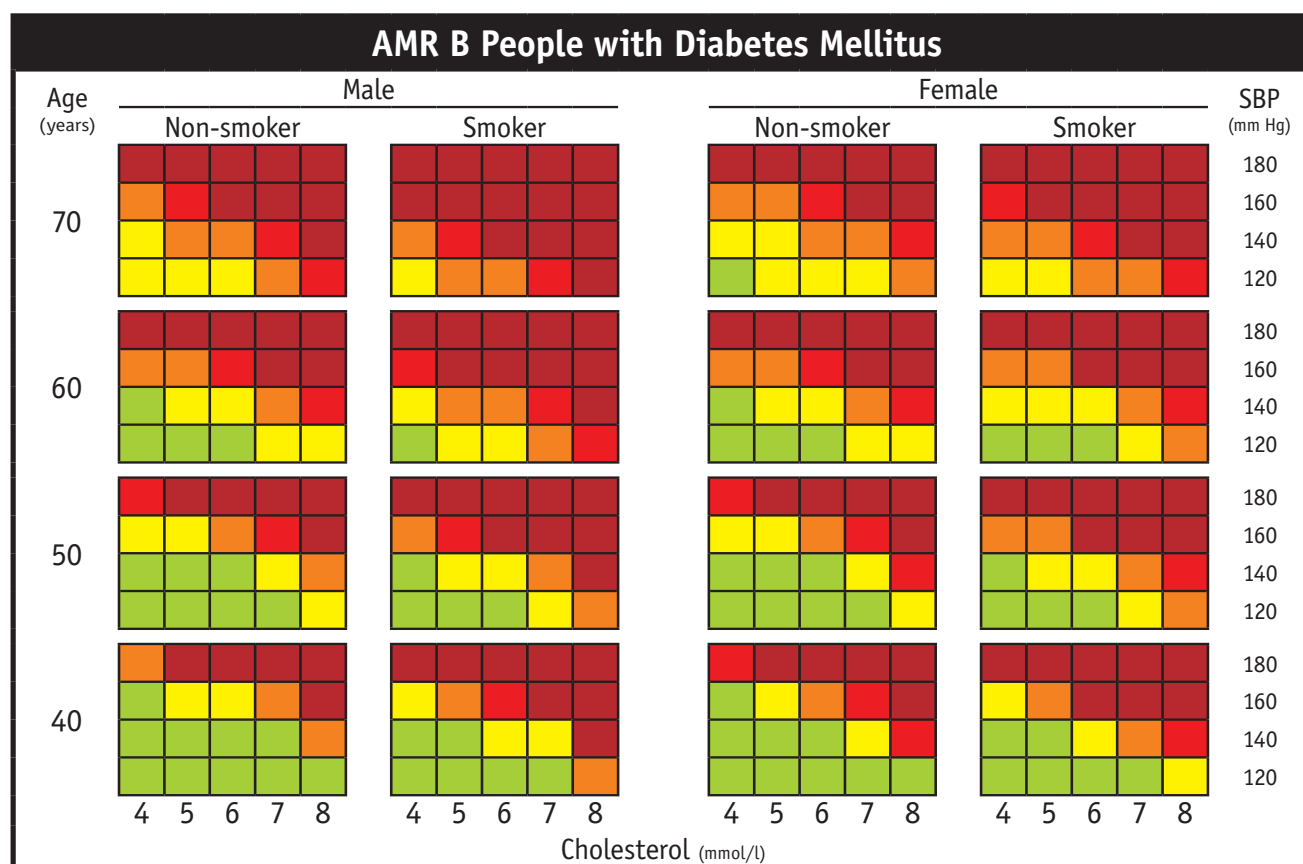
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of the Americas, sub-region A, in settings where blood cholesterol can be measured (Canada, Cuba, United States of America).

Figure 6. WHO/ISH risk prediction chart for AMR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

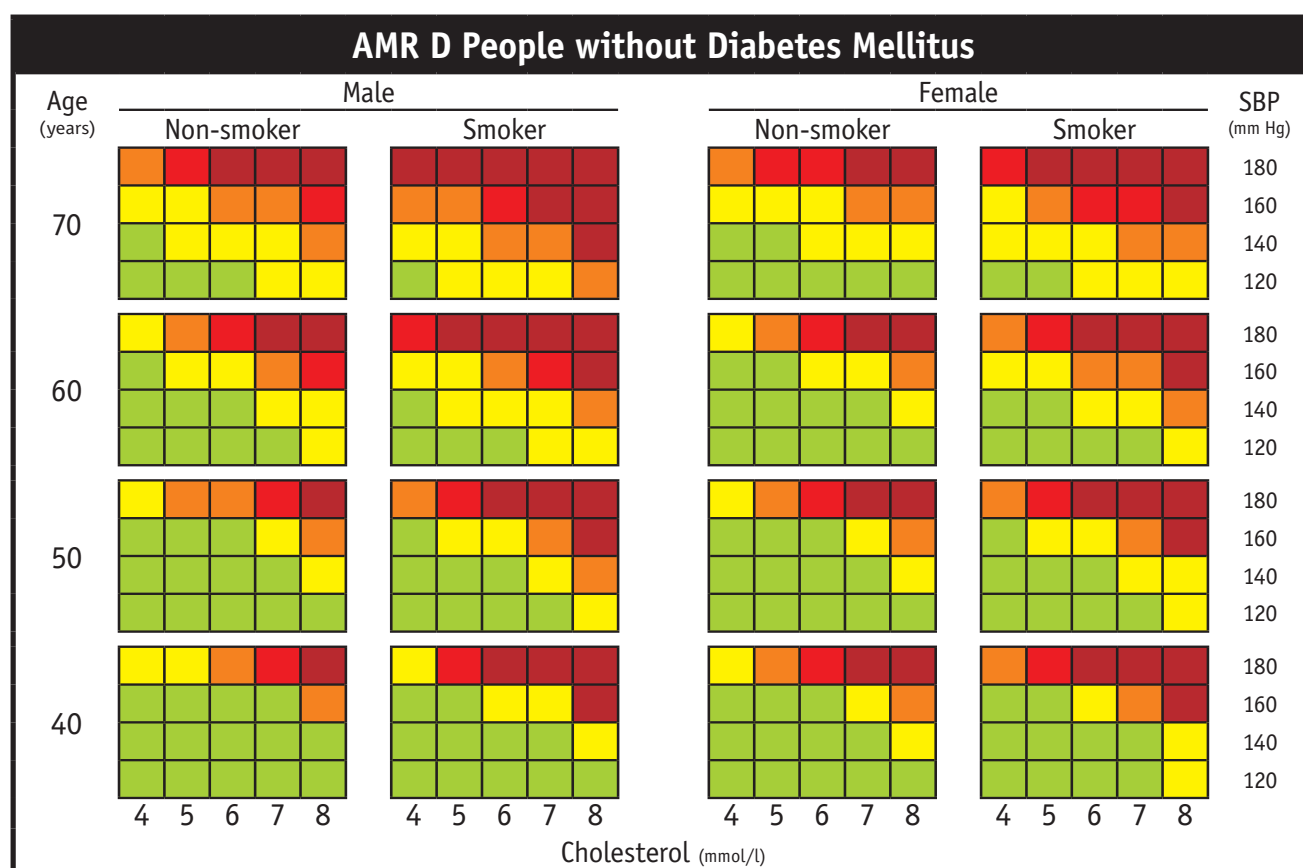
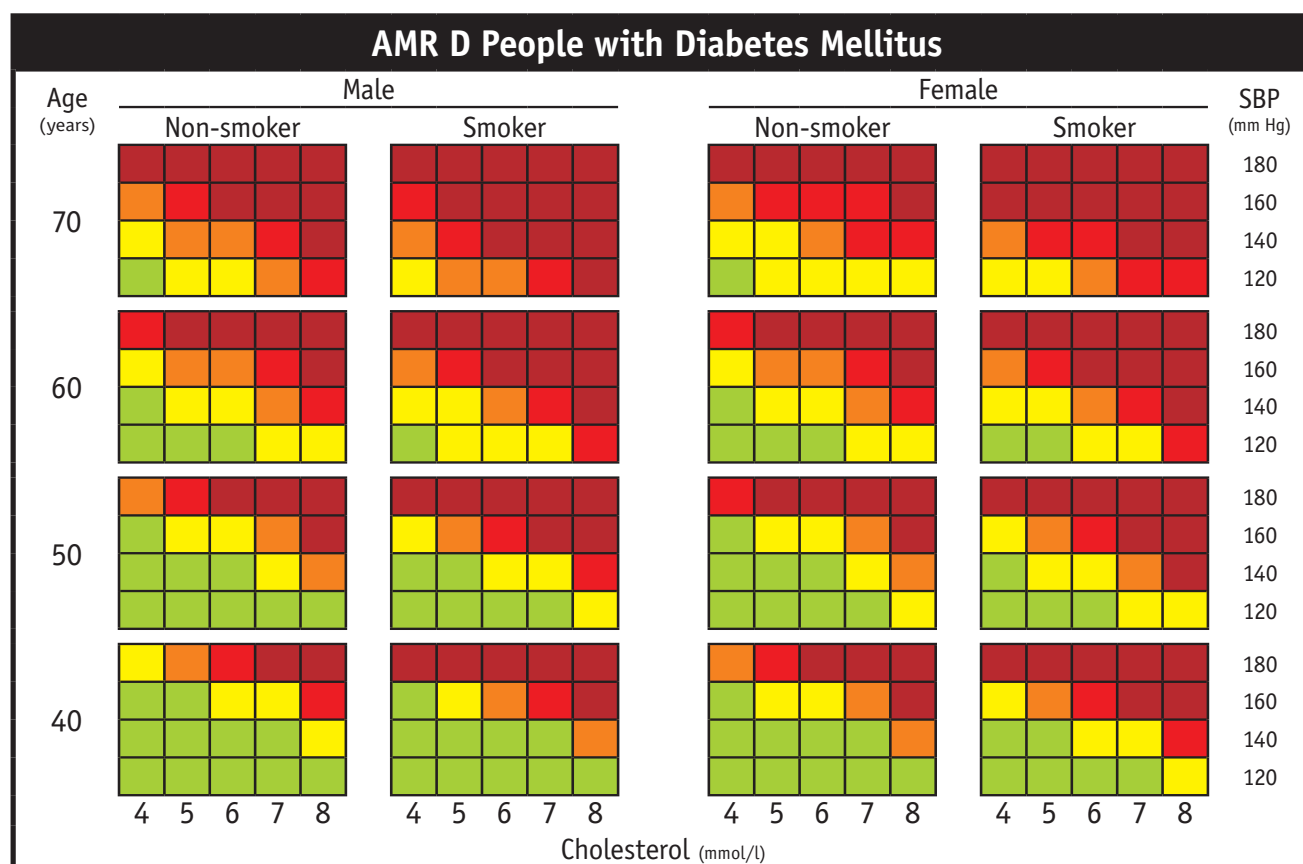
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of the Americas, sub-region B, in settings where blood cholesterol can be measured (Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts And Nevis, Saint Lucia, Saint Vincent and The Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela).

Figure 7. WHO/ISH risk prediction chart for AMR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

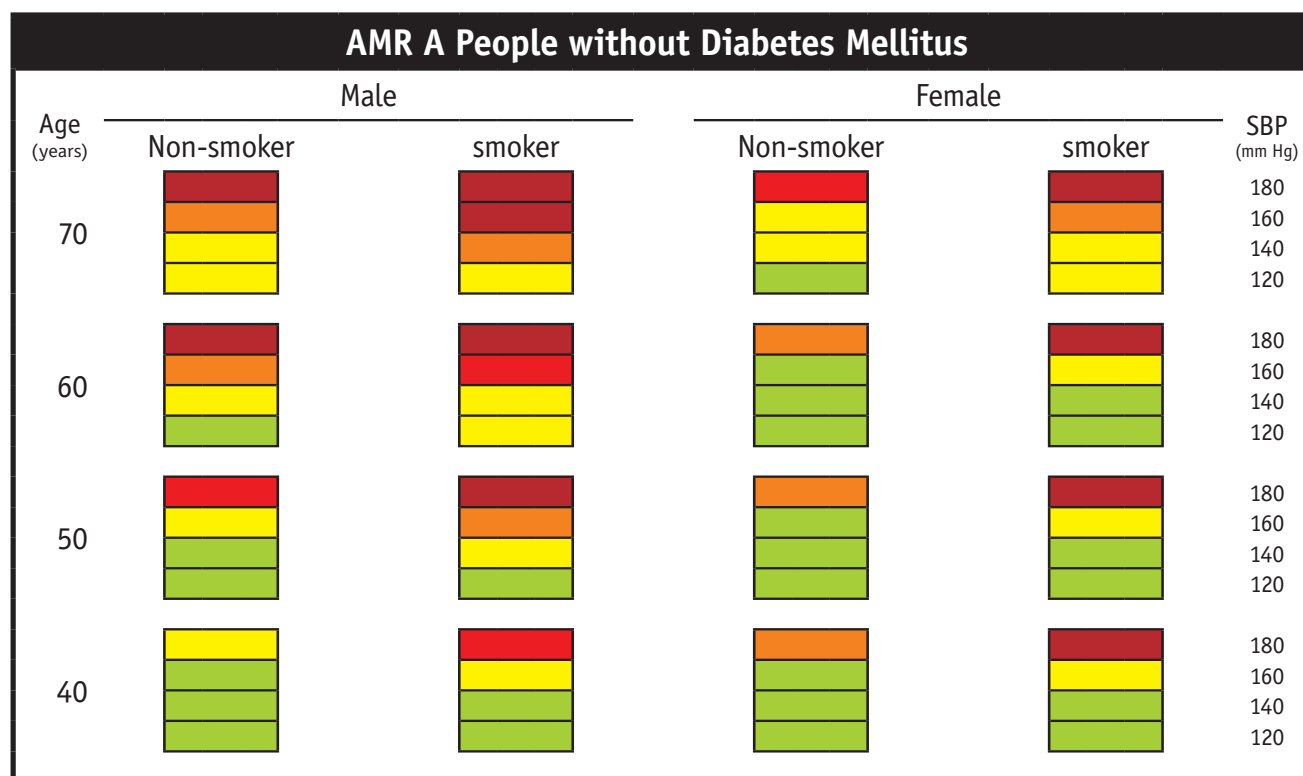
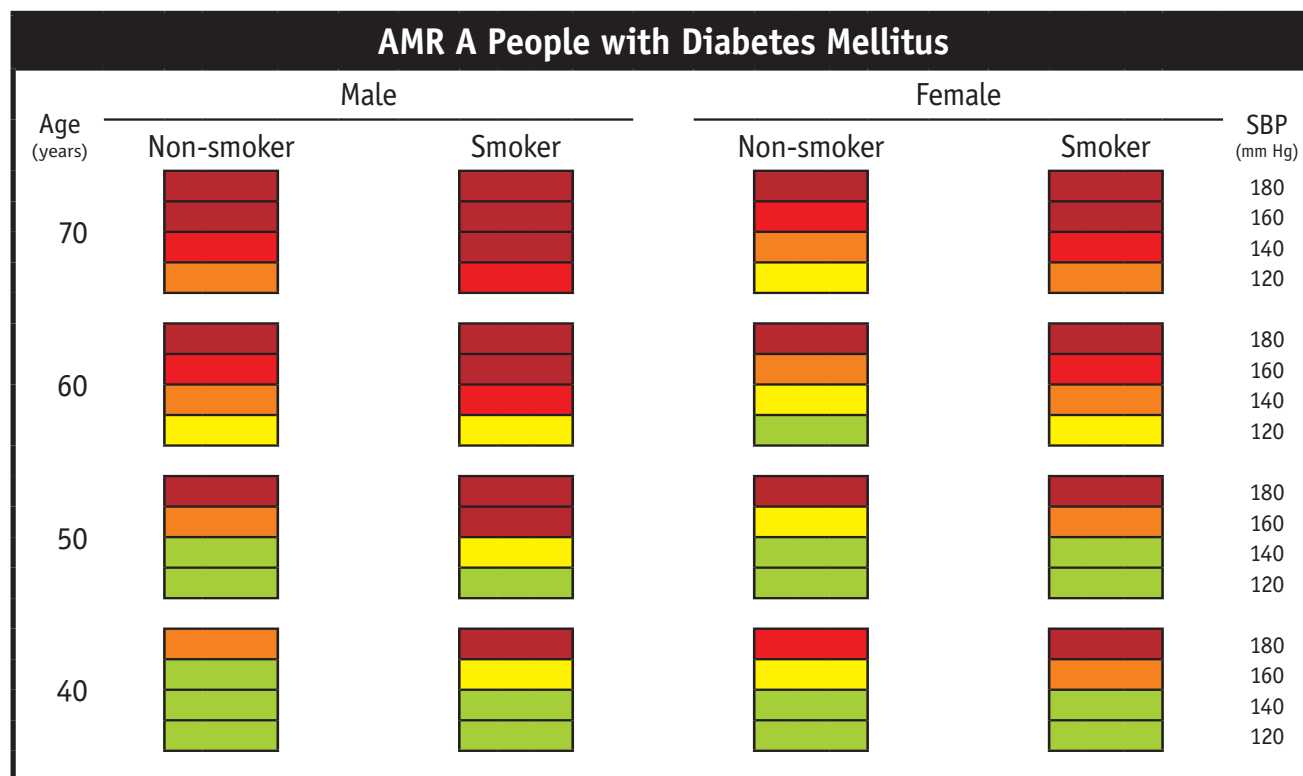
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of the Americas, sub-region D, in settings where blood cholesterol can be measured (Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru).

Figure 8. WHO/ISH risk prediction chart for AMR A. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

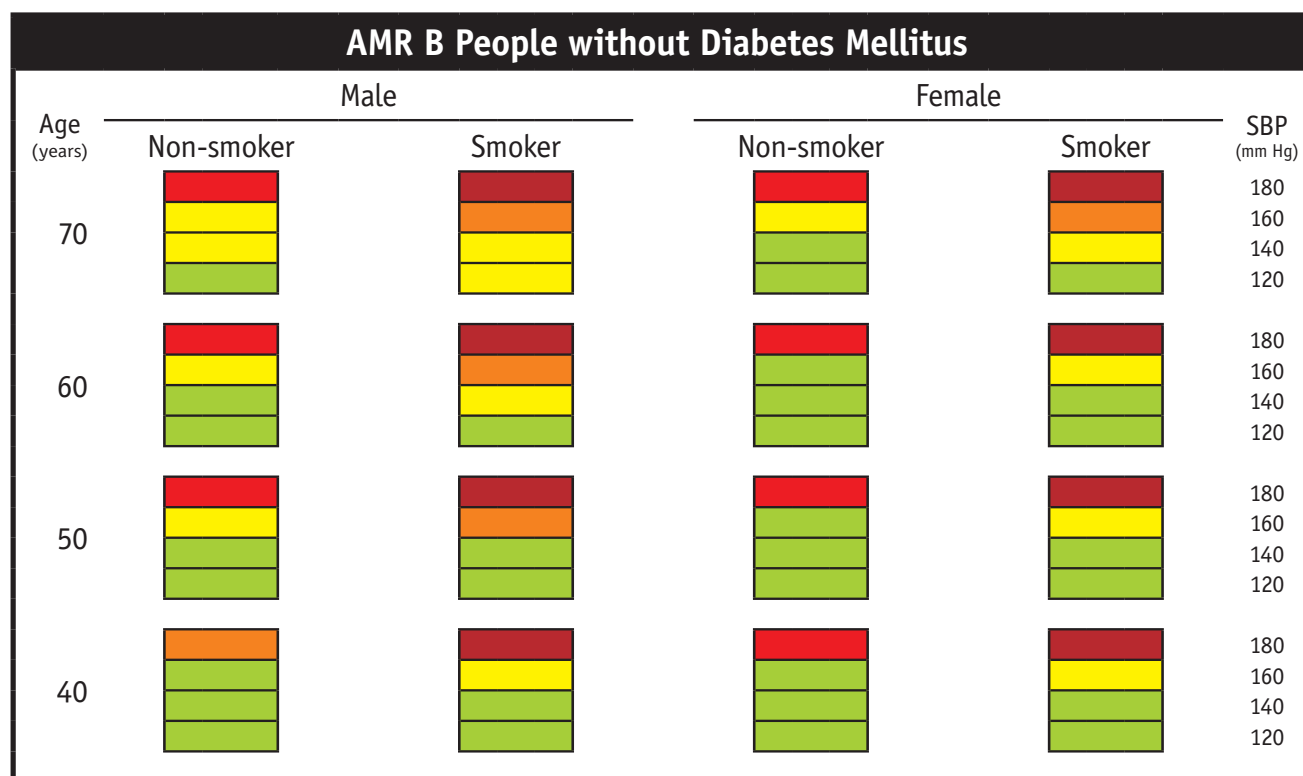
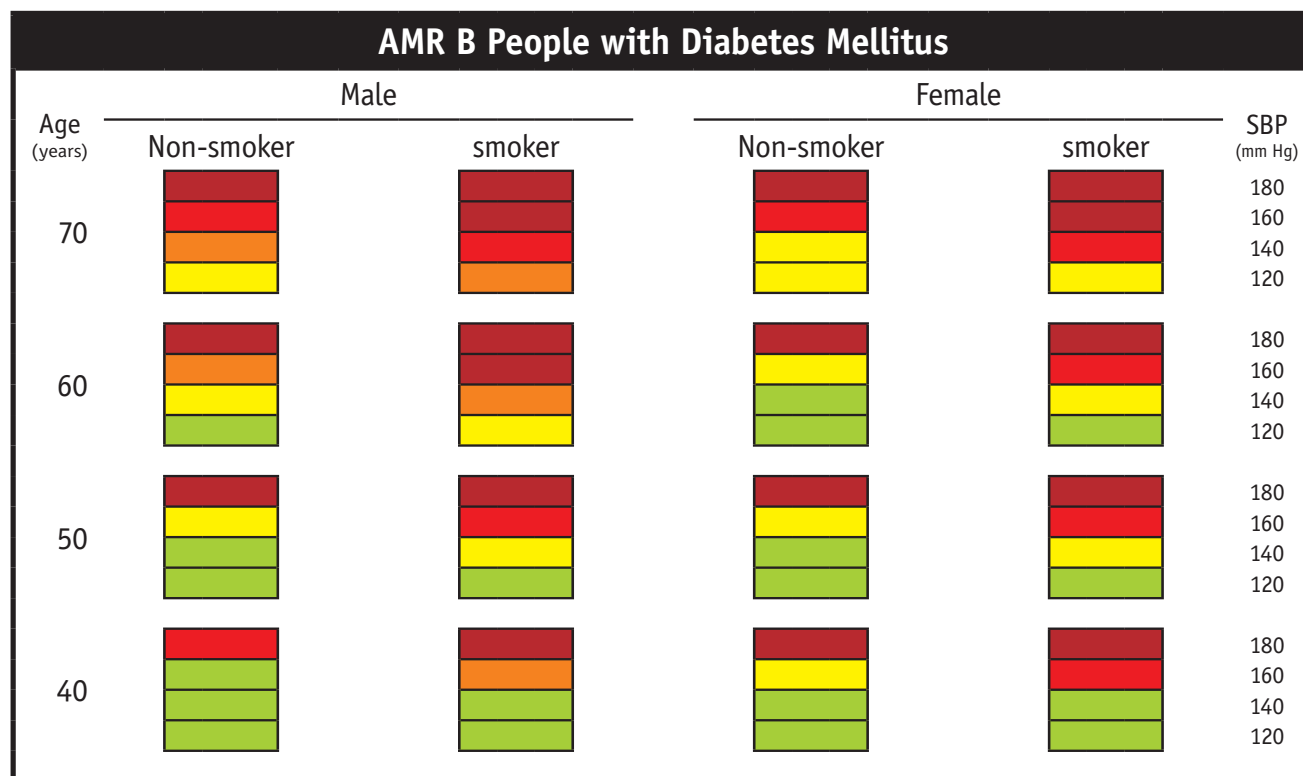
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of the Americas, sub-region A, in settings where blood cholesterol CANNOT be measured (Canada, Cuba, United States of America).

Figure 9. WHO/ISH risk prediction chart for AMR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

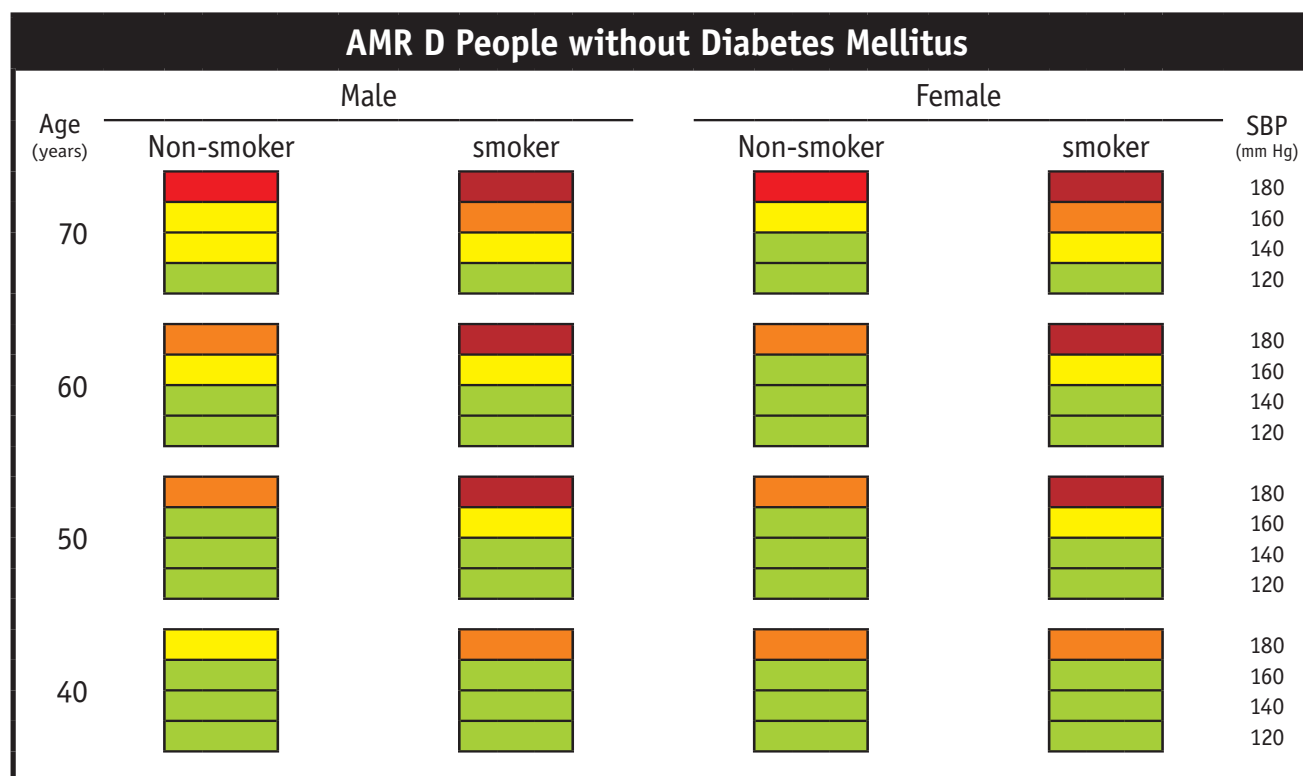
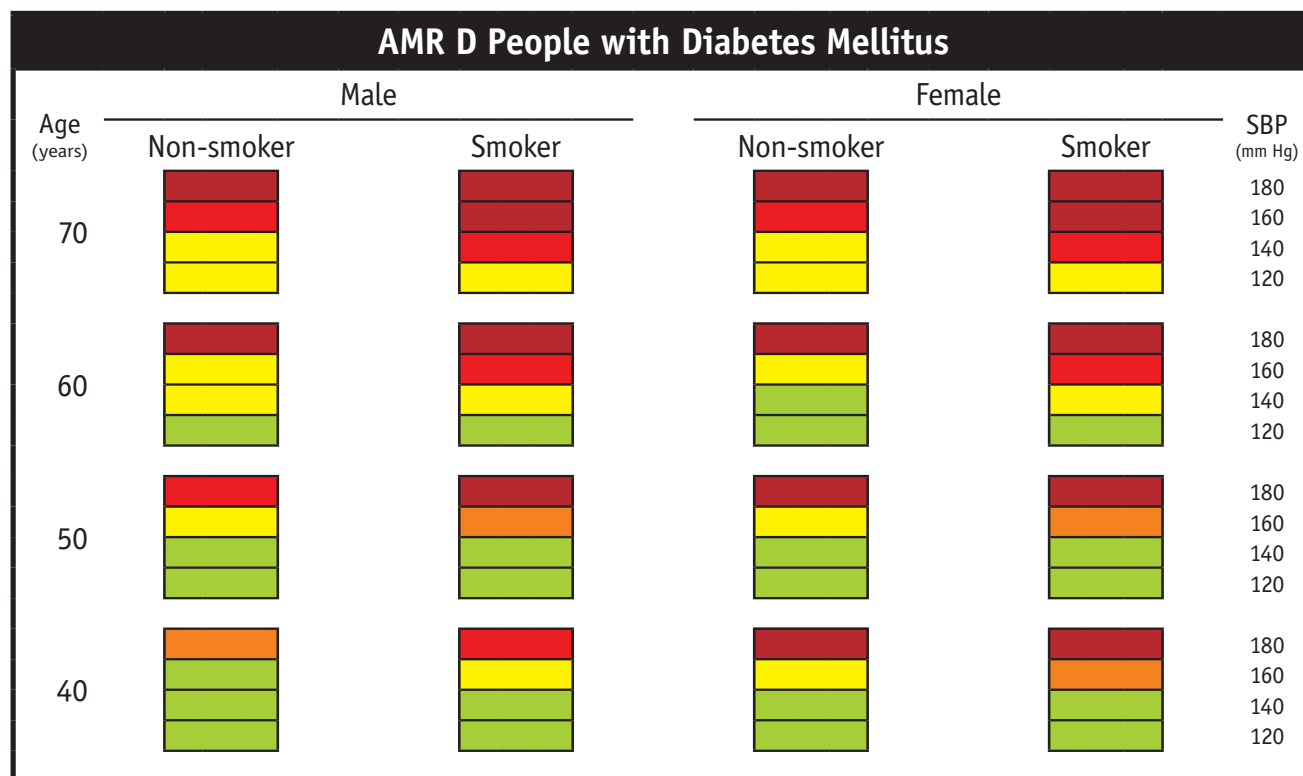
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of the Americas, sub-region B, in settings where blood cholesterol CANNOT be measured (Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts And Nevis, Saint Lucia, Saint Vincent and The Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela).

Figure 10. WHO/ISH risk prediction chart for AMR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of the Americas, sub-region D, in settings where blood cholesterol CANNOT be measured (Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru).

5. Eastern Mediterranean

WHO sub-regions EMR B, EMR D

Charts in colour for use in settings where total blood cholesterol can be measured

Figure 11. WHO/ISH risk prediction chart for EMR B

Figure 12. WHO/ISH risk prediction chart for EMR D

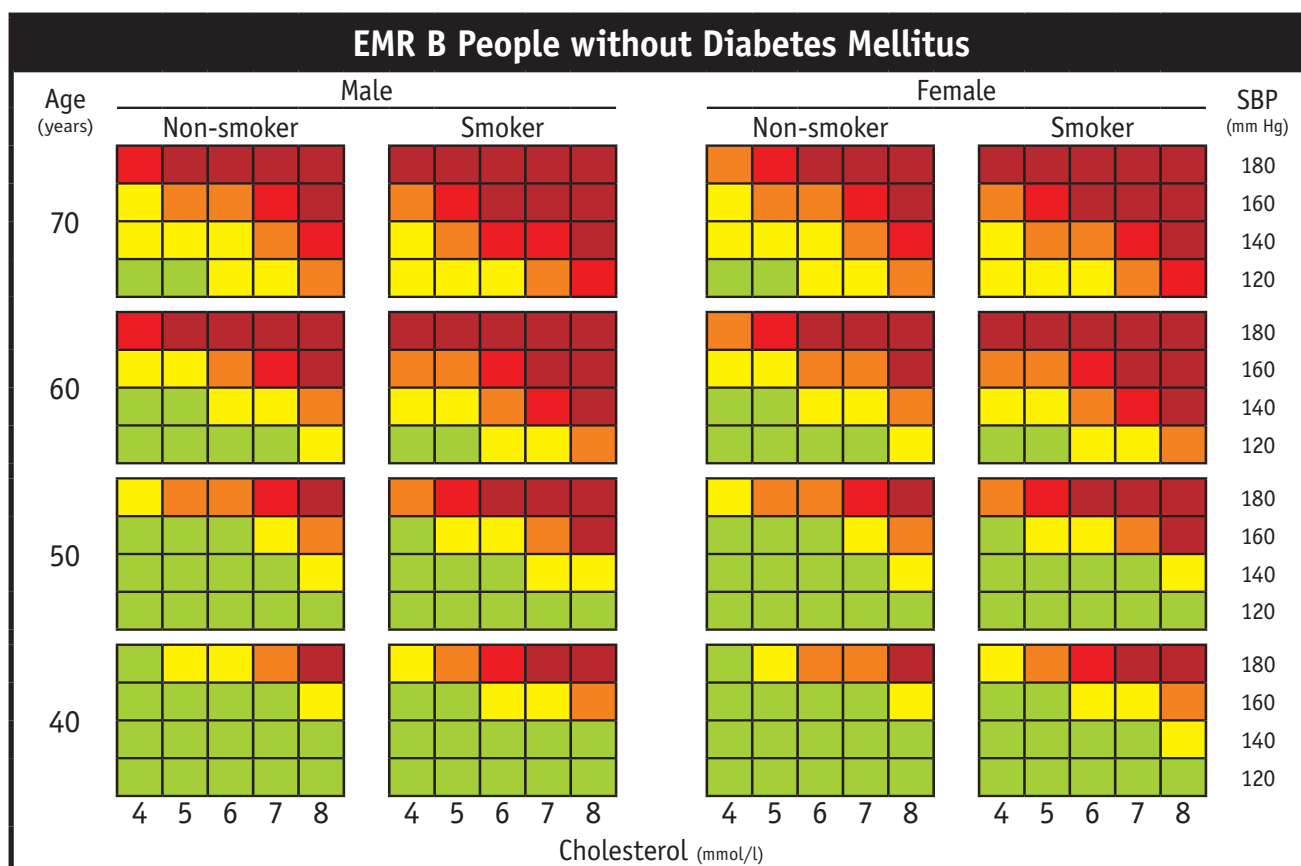
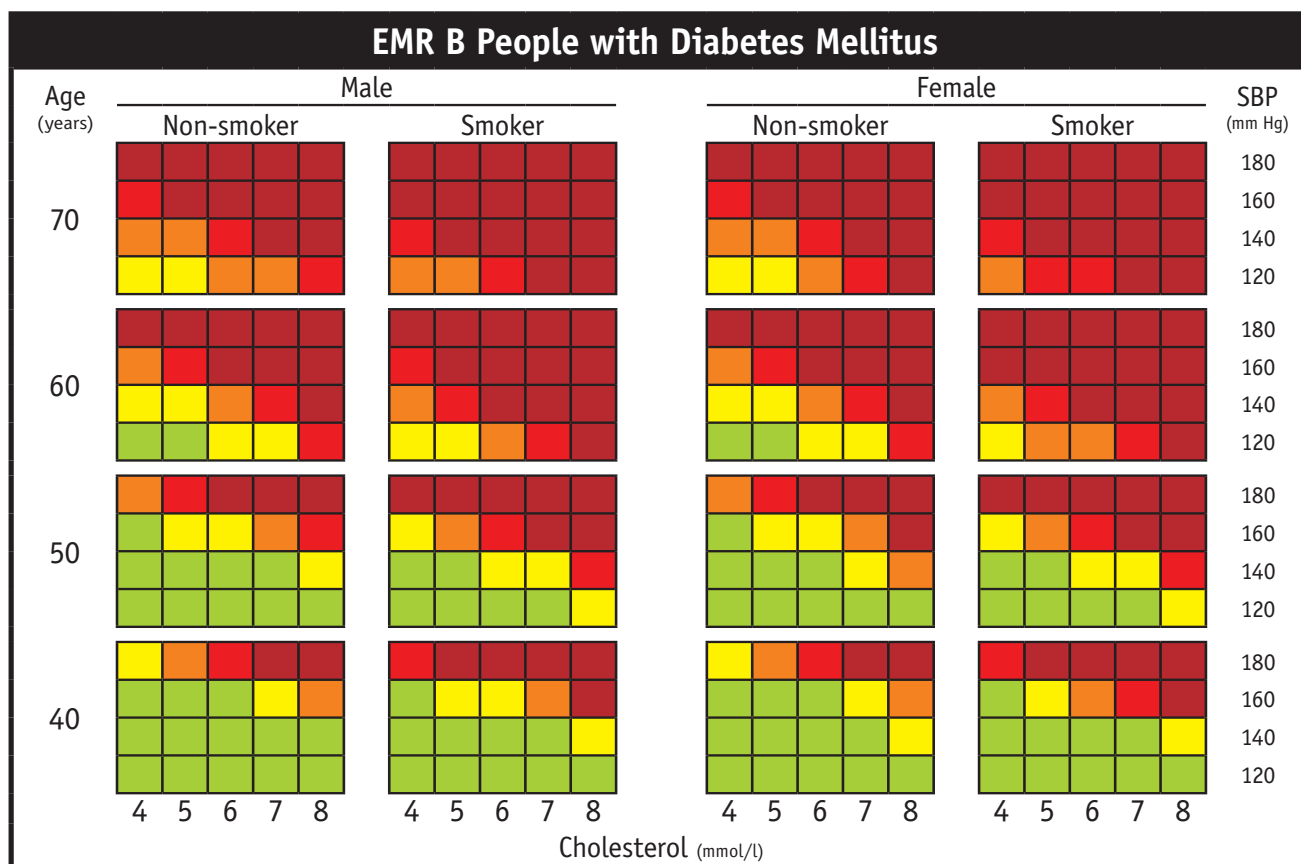
Charts in colour for use in settings where total blood cholesterol cannot be measured

Figure 13. WHO/ISH risk prediction chart for EMR B

Figure 14. WHO/ISH risk prediction chart for EMR D

Figure 11. WHO/ISH risk prediction chart for EMR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

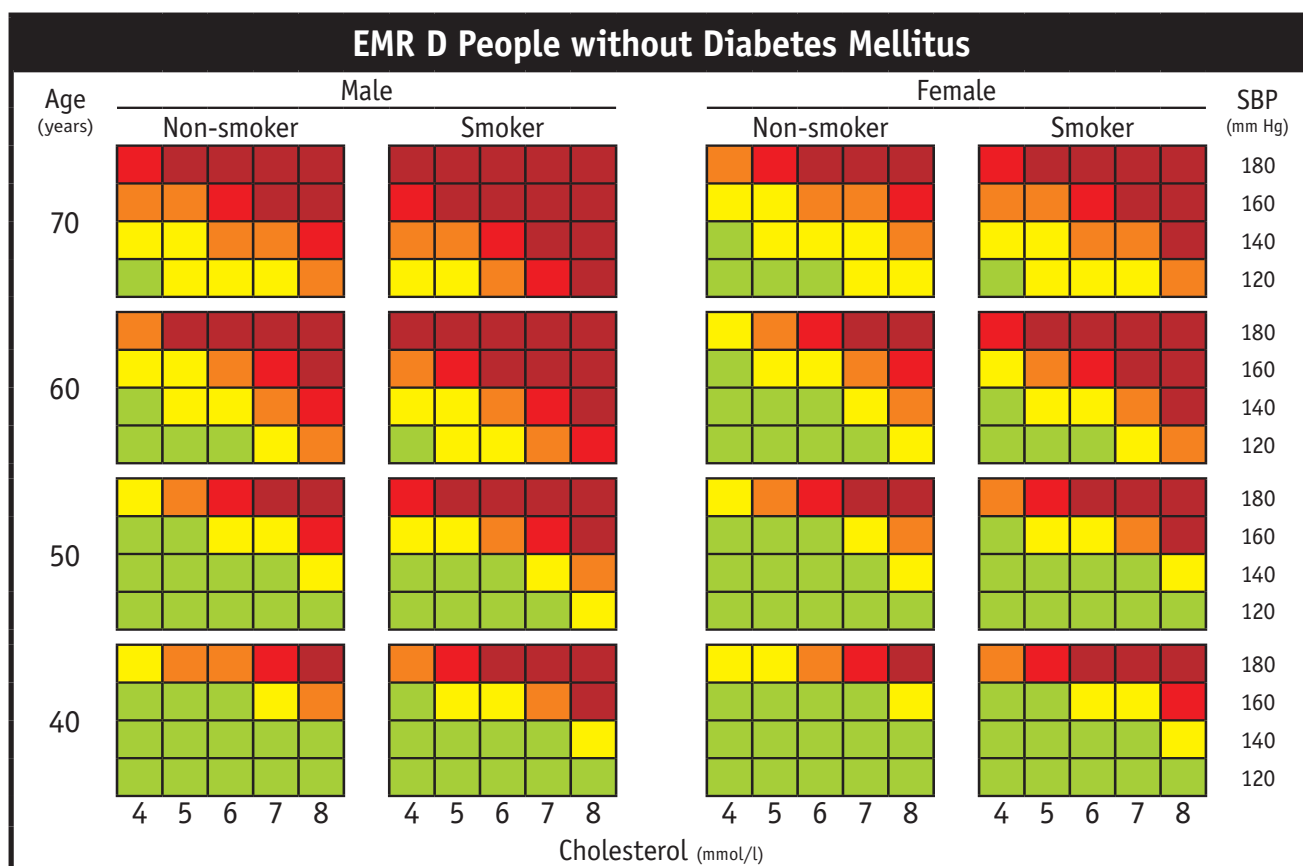
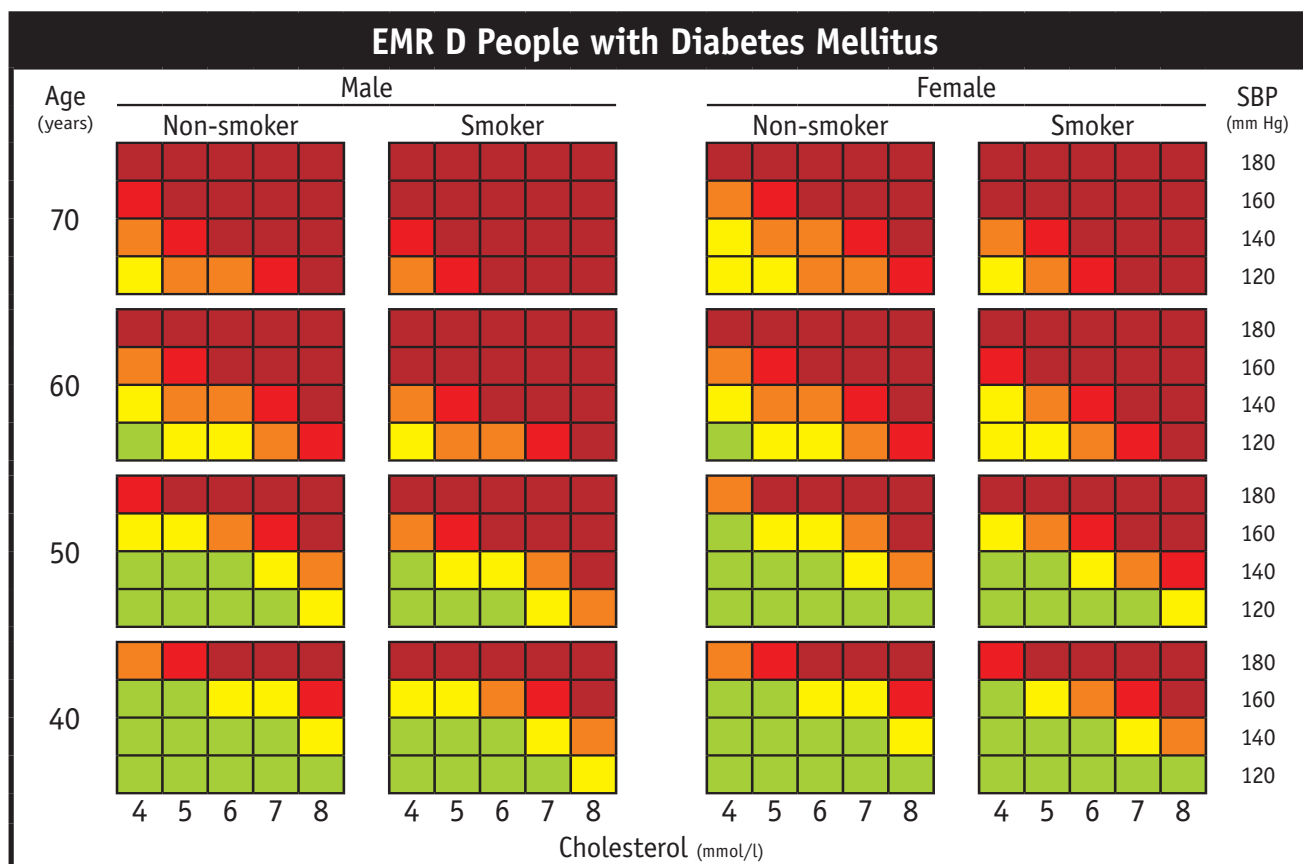
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Eastern Mediterranean, sub-region B, in settings where blood cholesterol can be measured (Bahrain, Iran (Islamic Republic of), Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates).

Figure 12. WHO/ISH risk prediction chart for EMR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

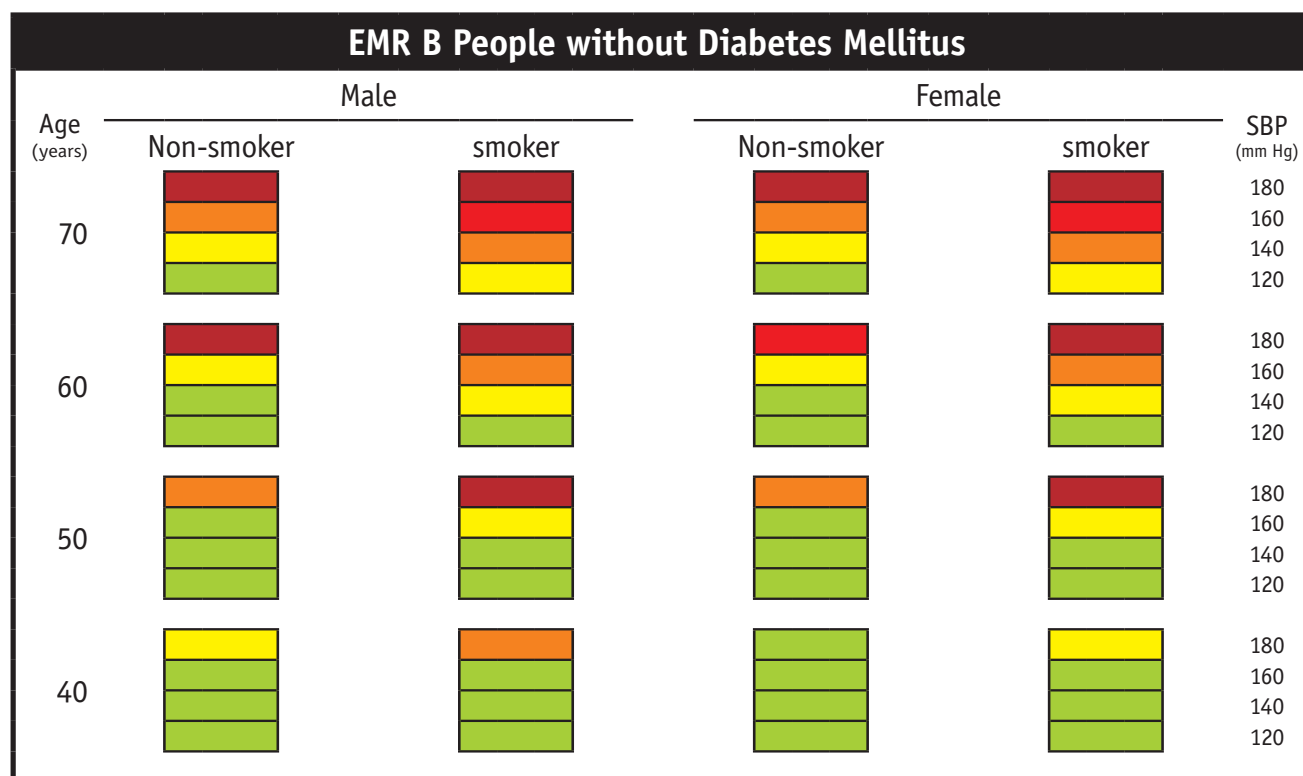
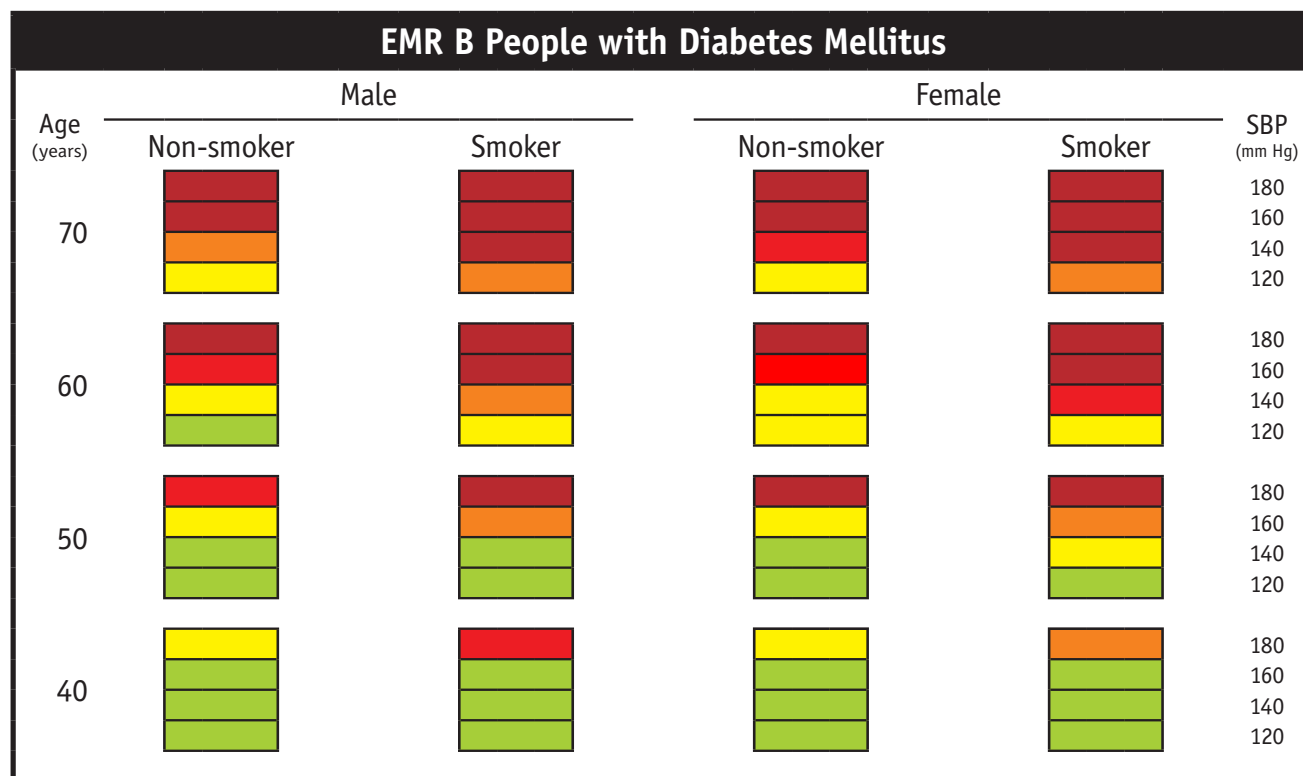
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Eastern Mediterranean, sub-region D, in settings where blood cholesterol can be measured (Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, Sudan, Yemen).

Figure 13. WHO/ISH risk prediction chart for EMR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

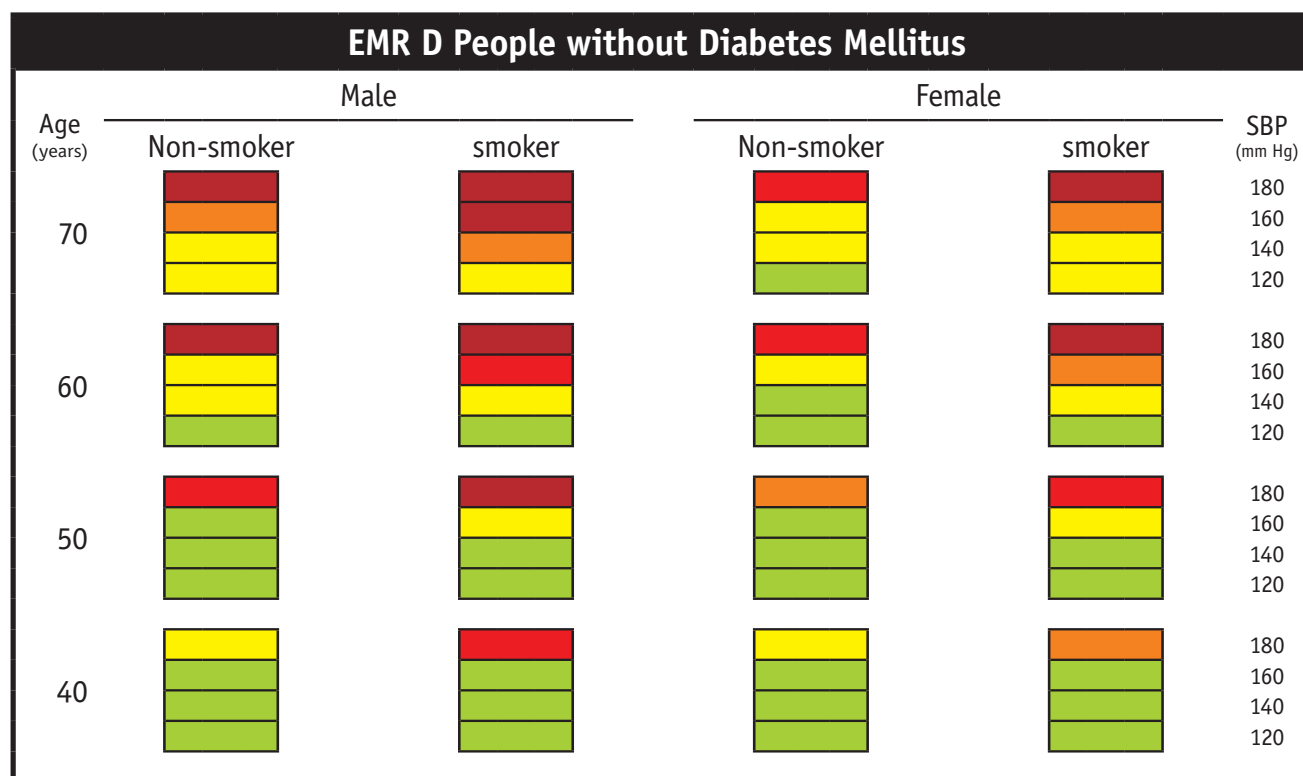
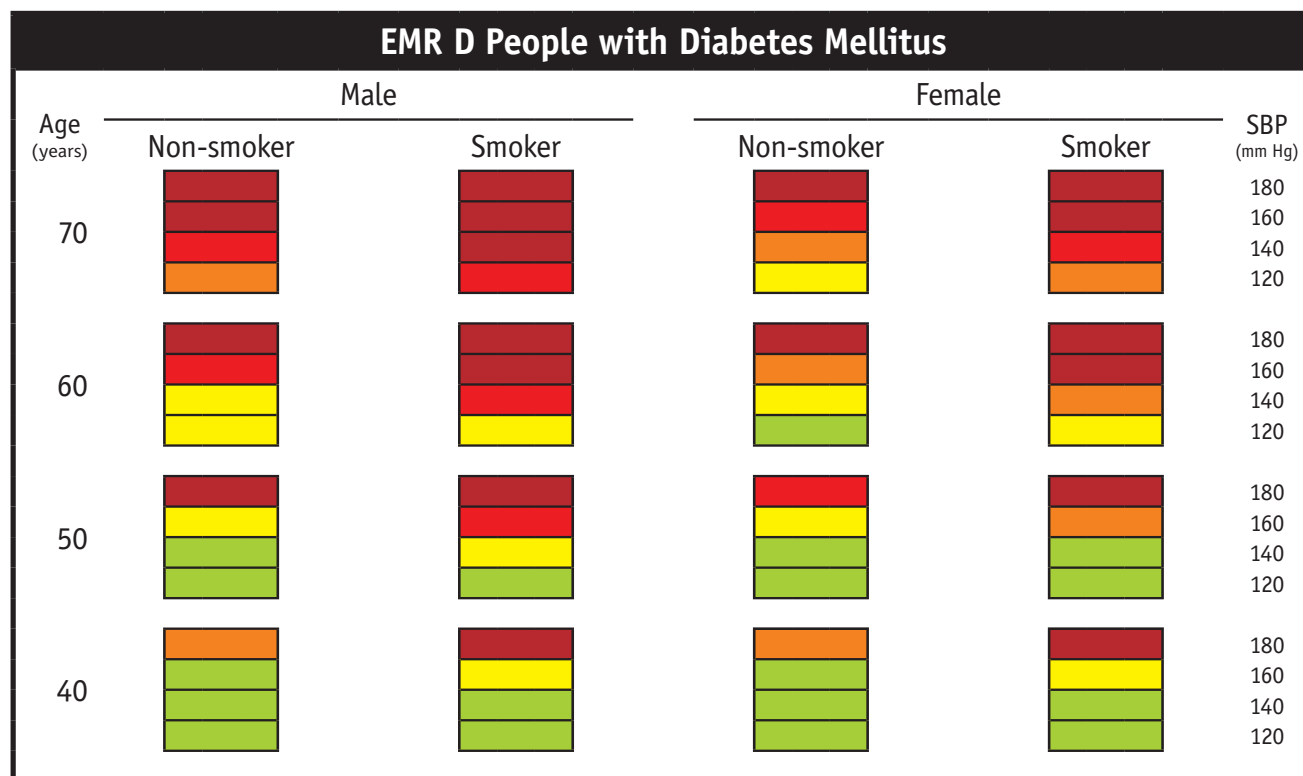
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Eastern Mediterranean, sub-region B in settings where blood cholesterol CANNOT be measured (Bahrain, Iran (Islamic Republic of), Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates).

Figure 14. WHO/ISH risk prediction chart for EMR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Eastern Mediterranean, sub-region D, in settings where blood cholesterol CANNOT be measured (Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, Sudan, Yemen).

6. Europe

WHO sub-regions EUR A, EUR B, EUR C

Charts in colour for use in settings where total blood cholesterol can be measured

Figure 15. WHO/ISH risk prediction chart for EUR A

Figure 16. WHO/ISH risk prediction chart for EUR B

Figure 17. WHO/ISH risk prediction chart for EUR C

Charts in colour for use in settings where total blood cholesterol cannot be measured

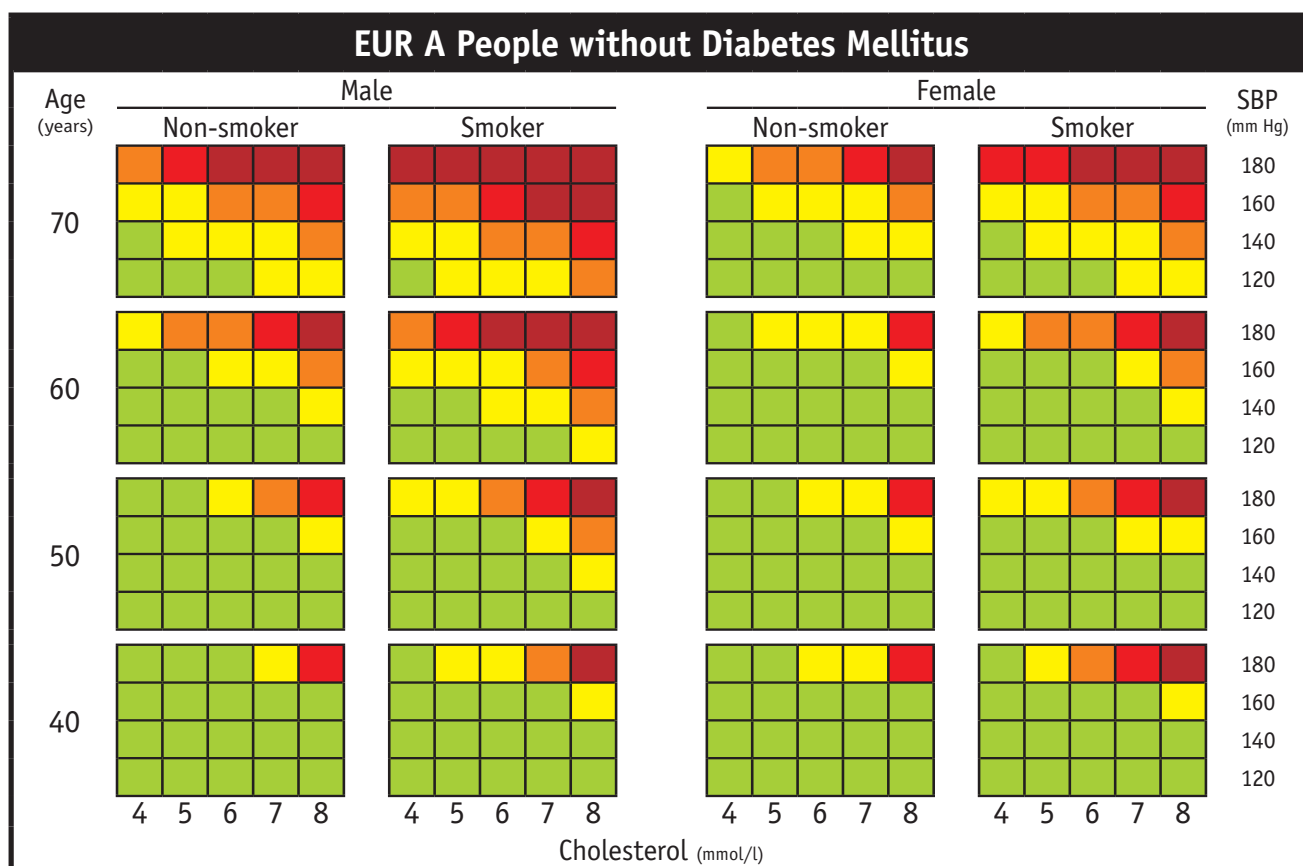
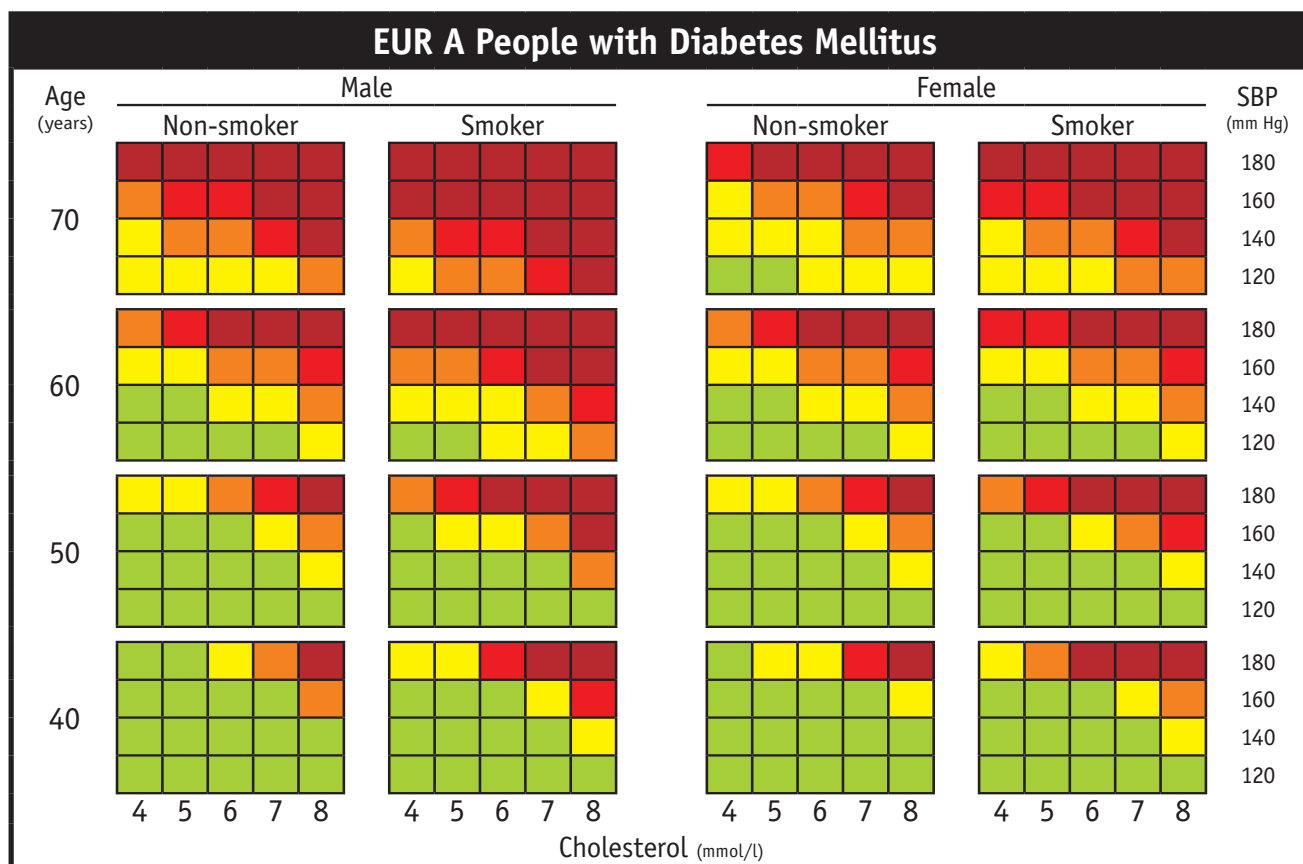
Figure 18. WHO/ISH risk prediction chart for EUR A

Figure 19. WHO/ISH risk prediction chart for EUR B

Figure 20. WHO/ISH risk prediction chart for EUR C

Figure 15. WHO/ISH risk prediction chart for EUR A. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

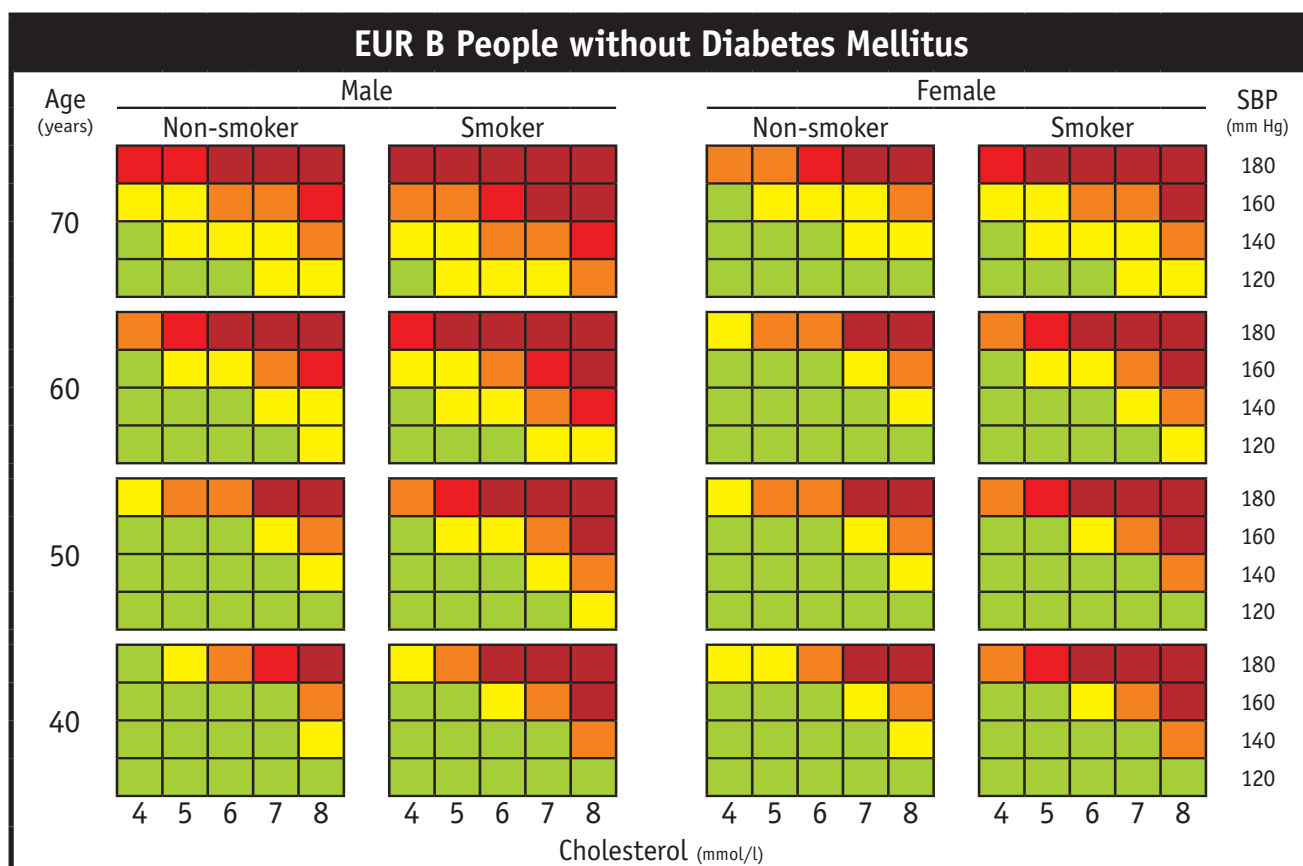
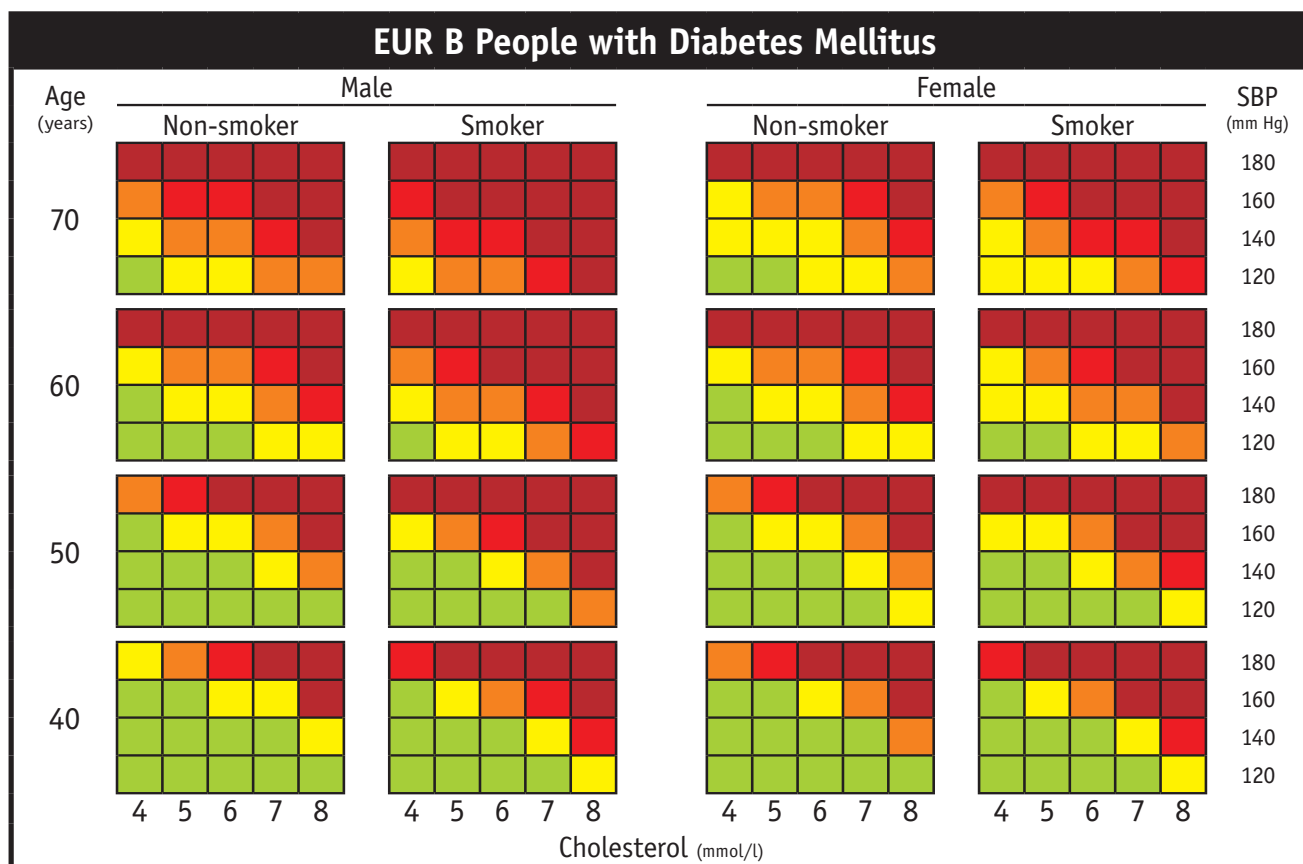
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Europe, sub-region A in settings where blood cholesterol can be measured (Andorra, Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom).

Figure 16. WHO/ISH risk prediction chart for EUR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

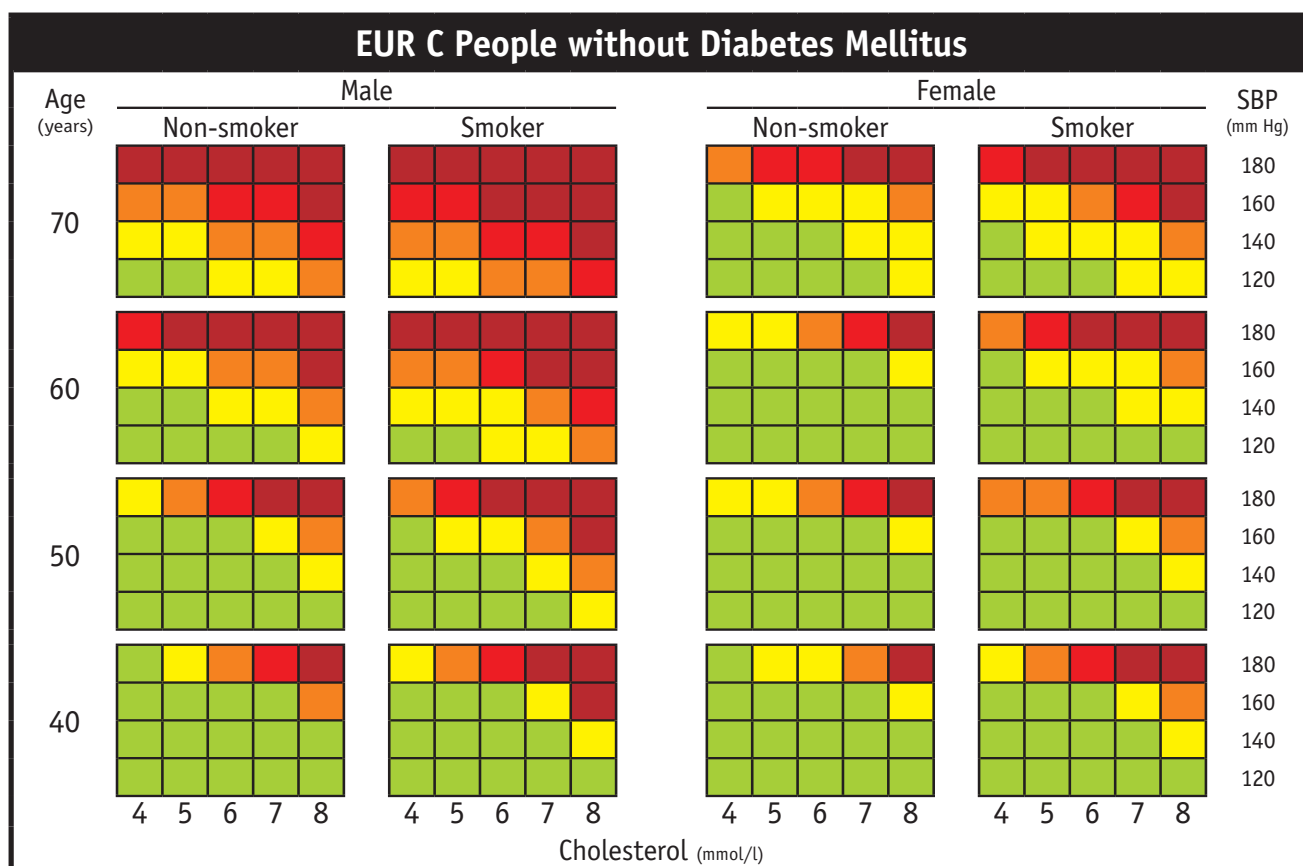
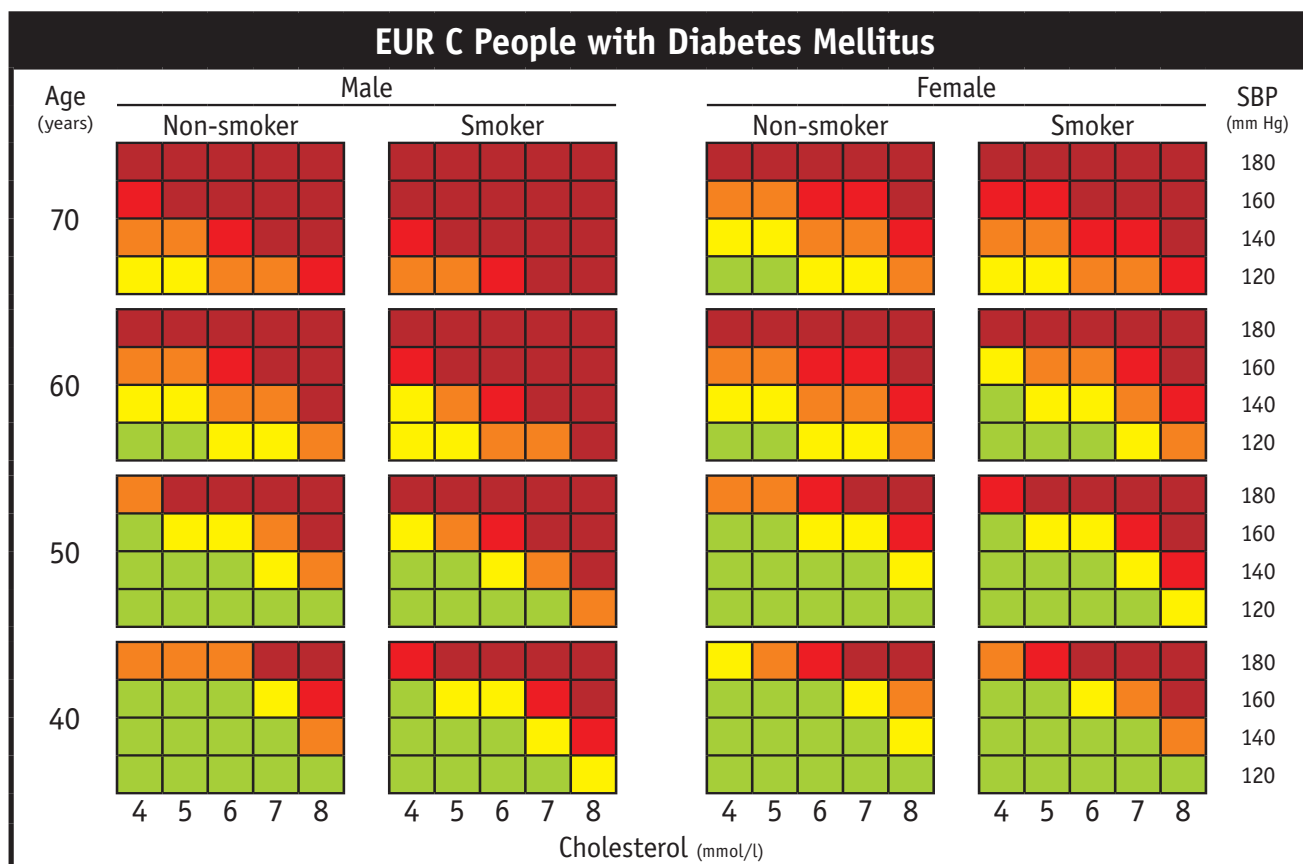
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Europe, sub-region B, in settings where blood cholesterol can be measured (Albania, Armenia, Azerbaijan, Bosnia And Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan).

Figure 17. WHO/ISH risk prediction chart for EUR C. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

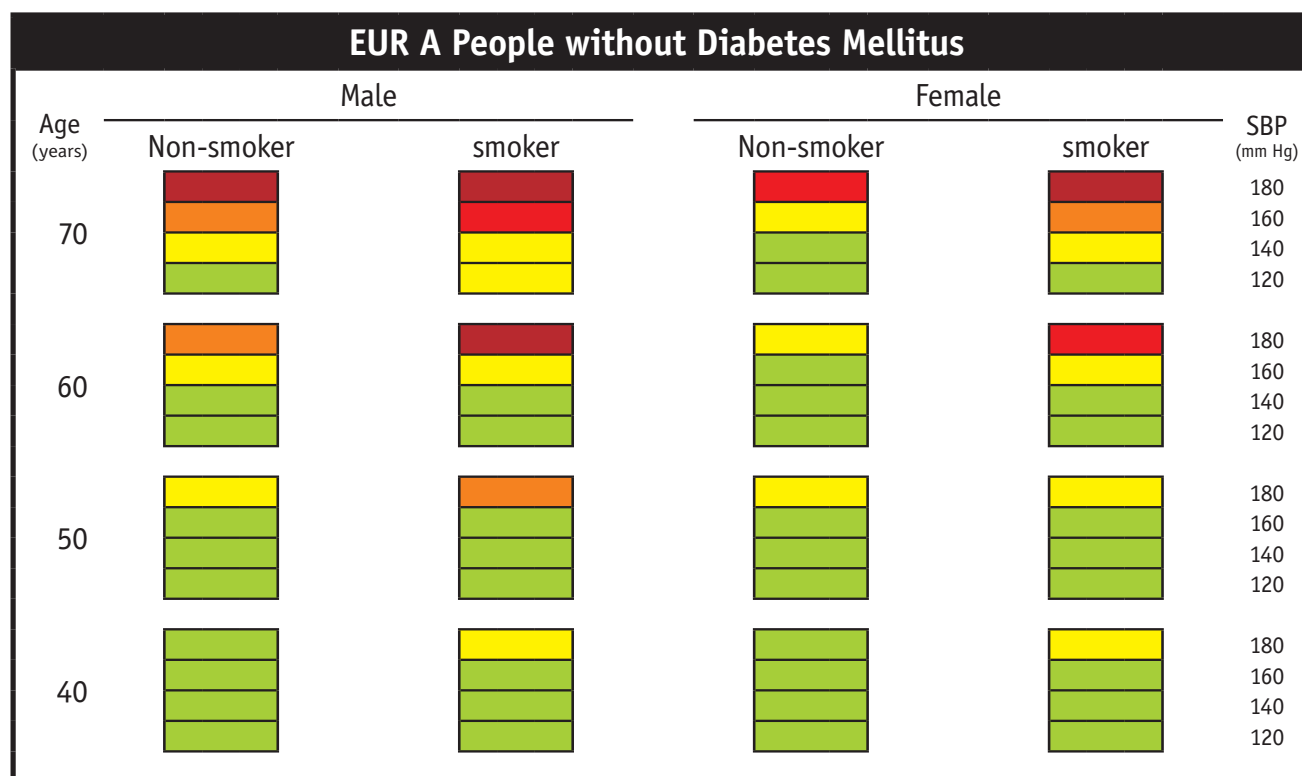
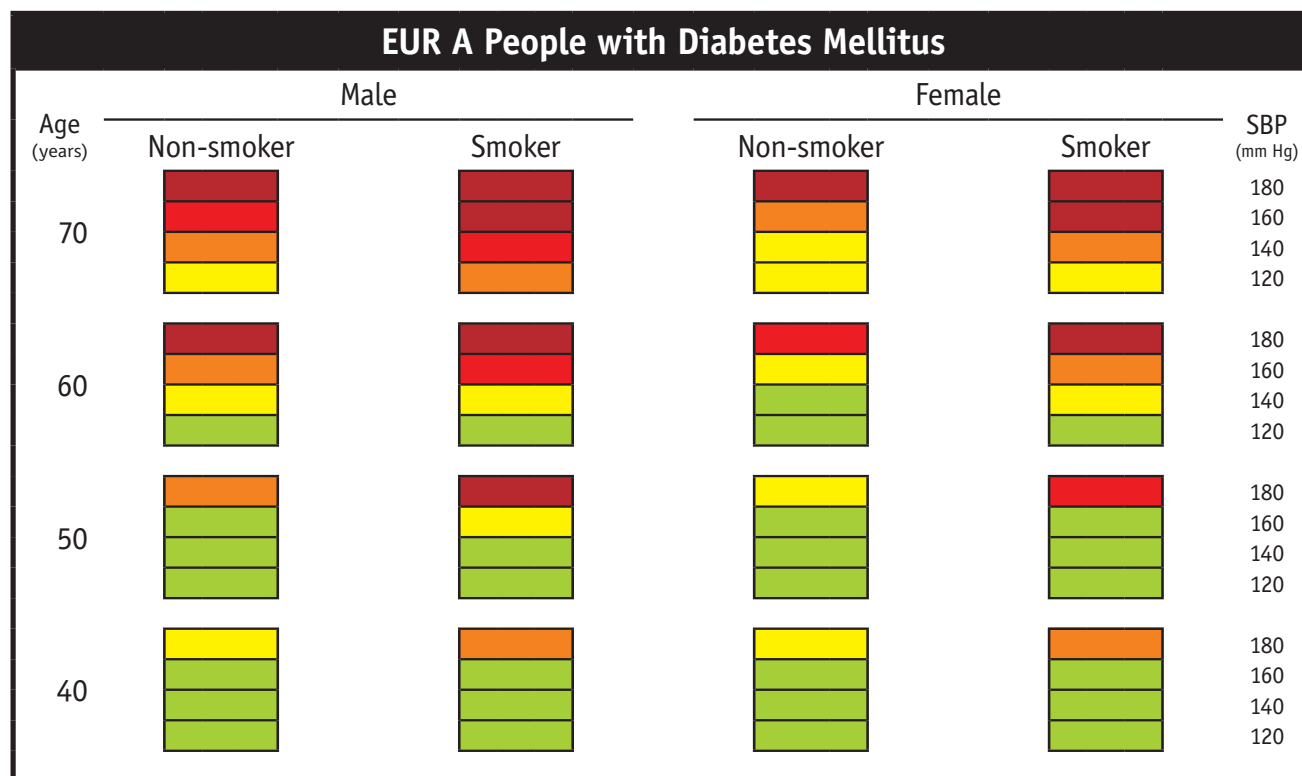
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Europe, sub-region C, in settings where blood cholesterol can be measured (Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine).

Figure 18. WHO/ISH risk prediction chart for EUR A. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

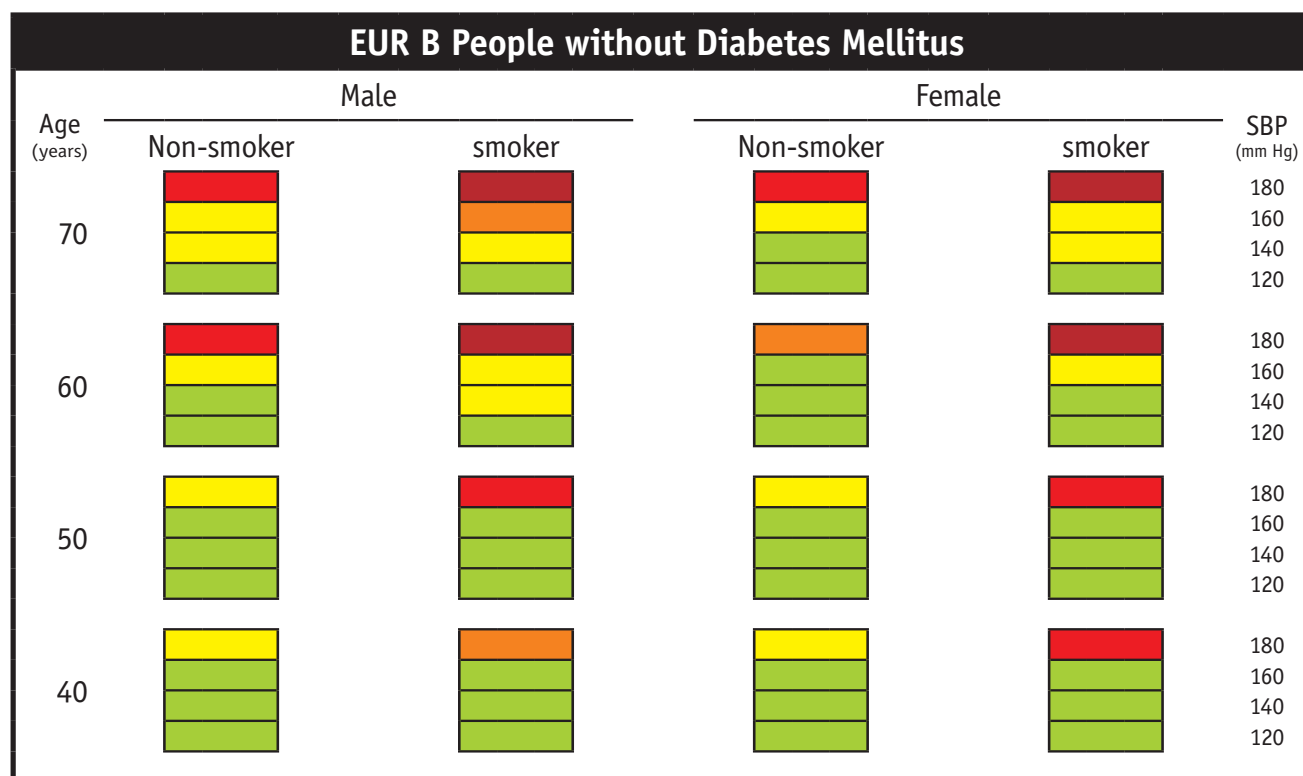
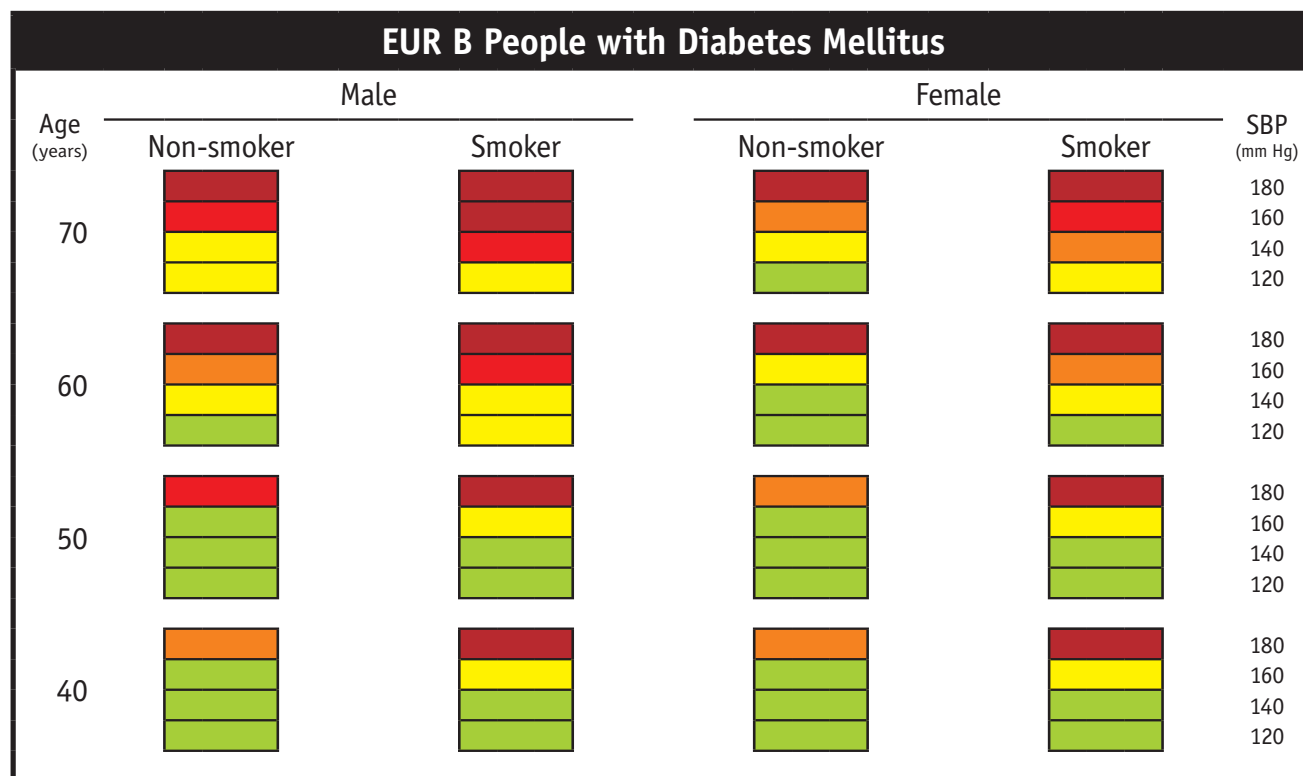
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Europe, sub-region A in settings where blood cholesterol CANNOT be measured (Andorra, Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom).

Figure 19. WHO/ISH risk prediction chart for EUR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

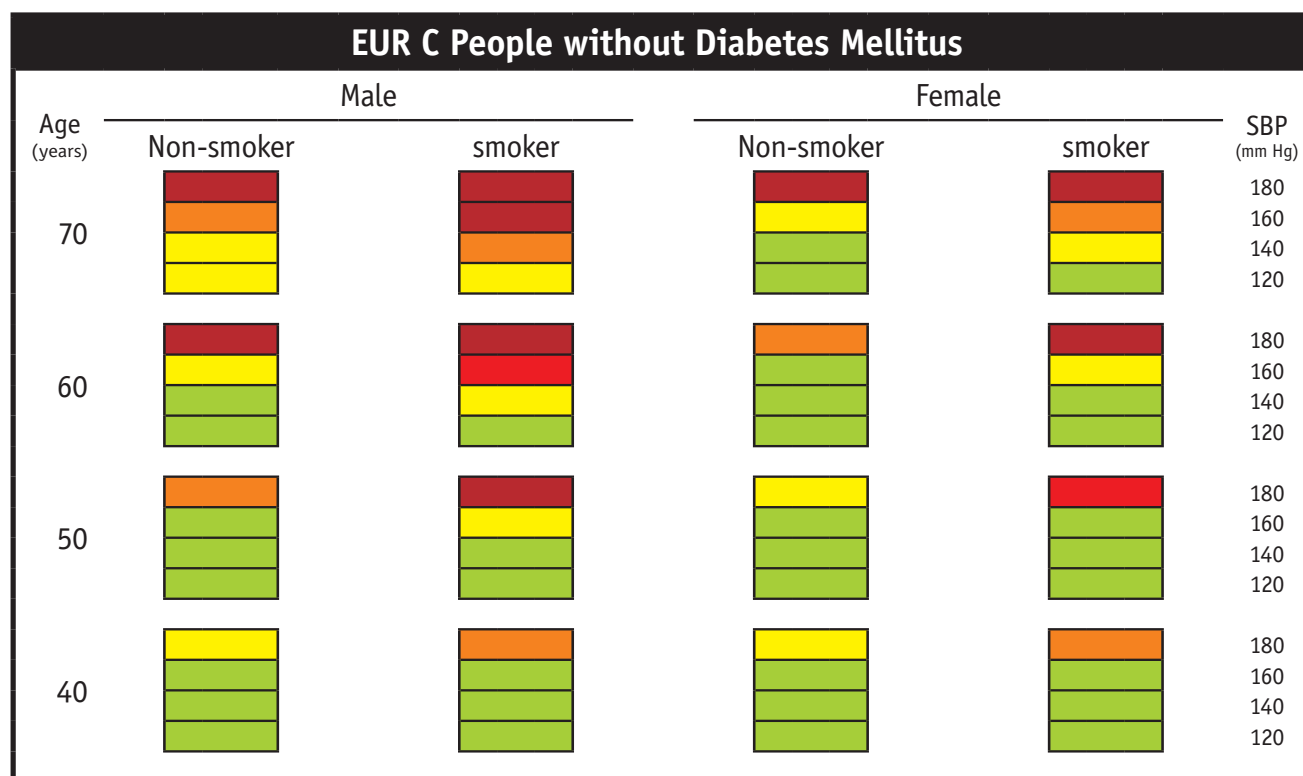
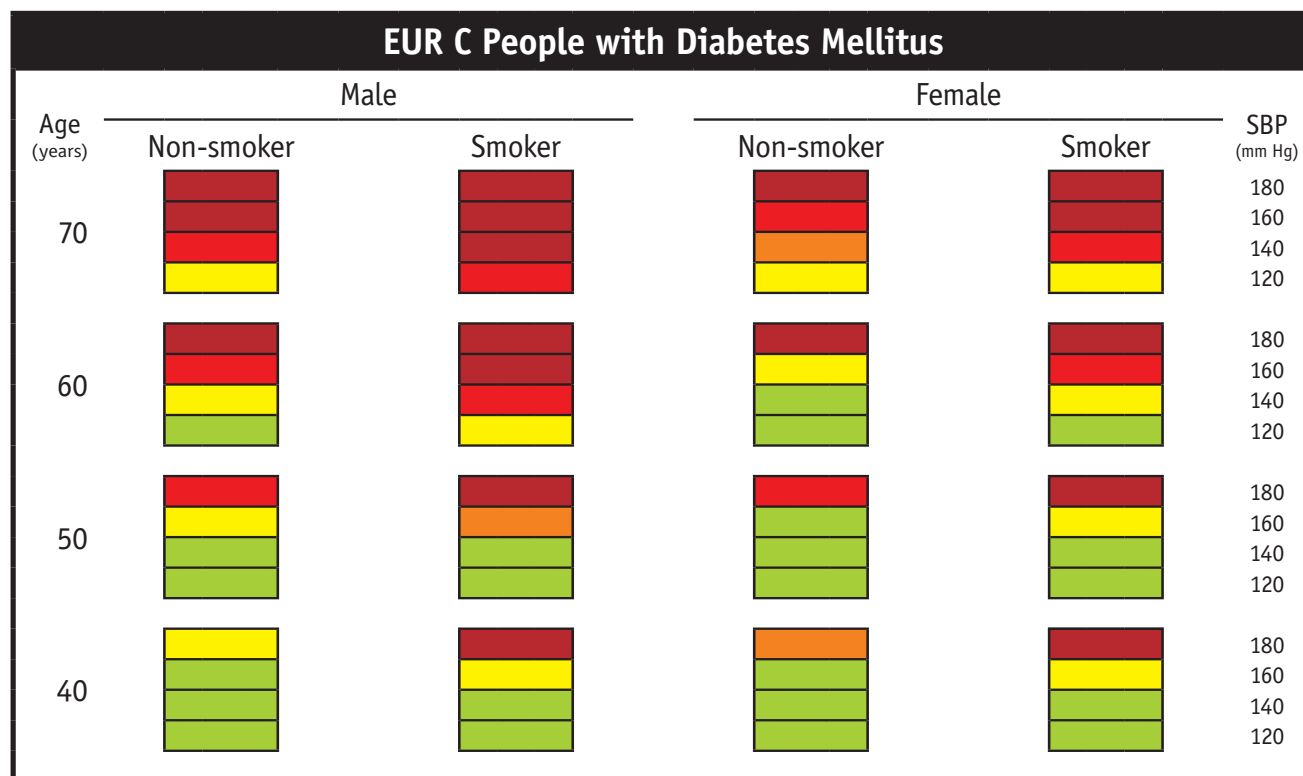
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Europe, sub-region B in settings where blood cholesterol CANNOT be measured (Albania, Armenia, Azerbaijan, Bosnia And Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan).

Figure 20. WHO/ISH risk prediction chart for EUR C. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Europe, sub-region C in settings where blood cholesterol CANNOT be measured (Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine).

7. South East Asia

WHO sub-regions SEAR B, SEAR D

Charts in colour for use in settings where total blood cholesterol can be measured

Figure 21. WHO/ISH risk prediction chart for SEAR B

Figure 22. WHO/ISH risk prediction chart for SEAR D

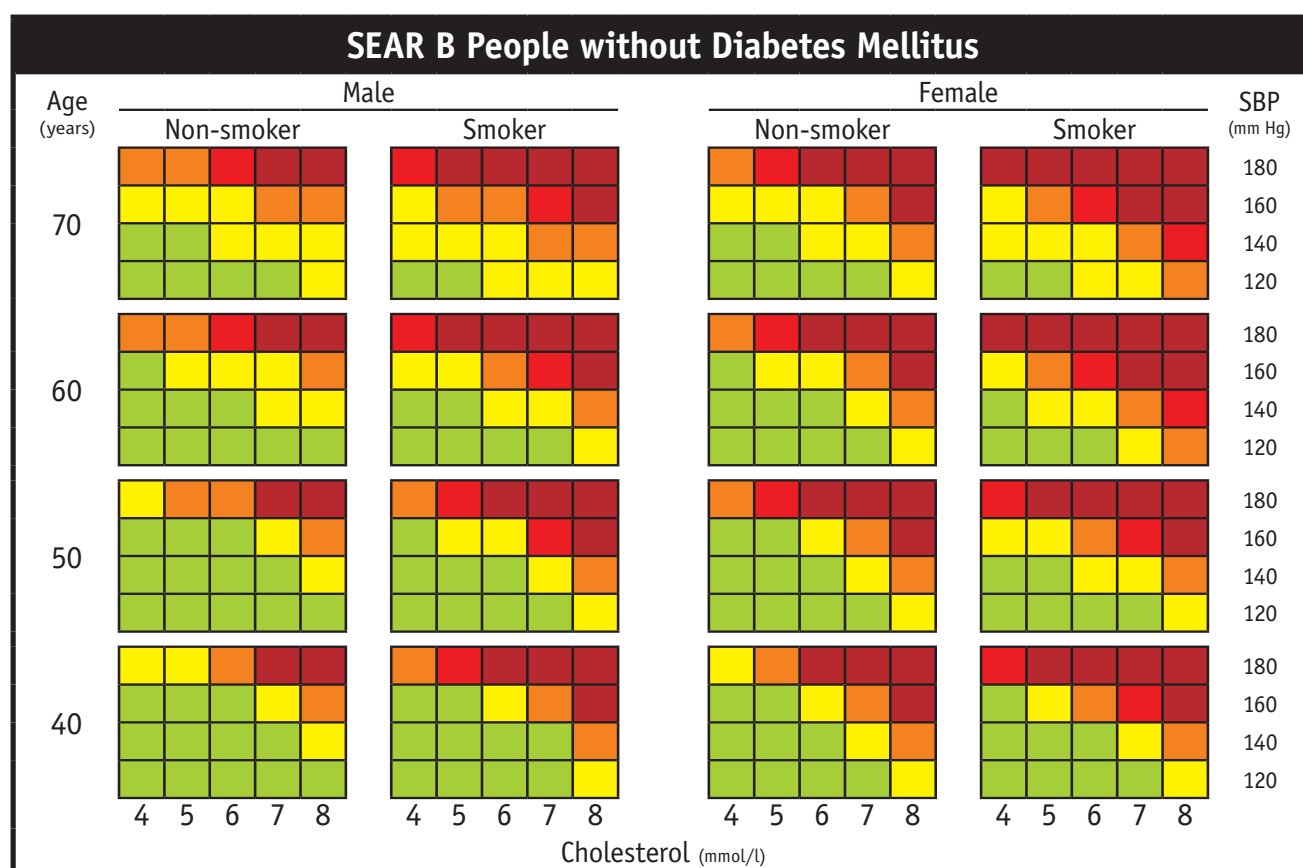
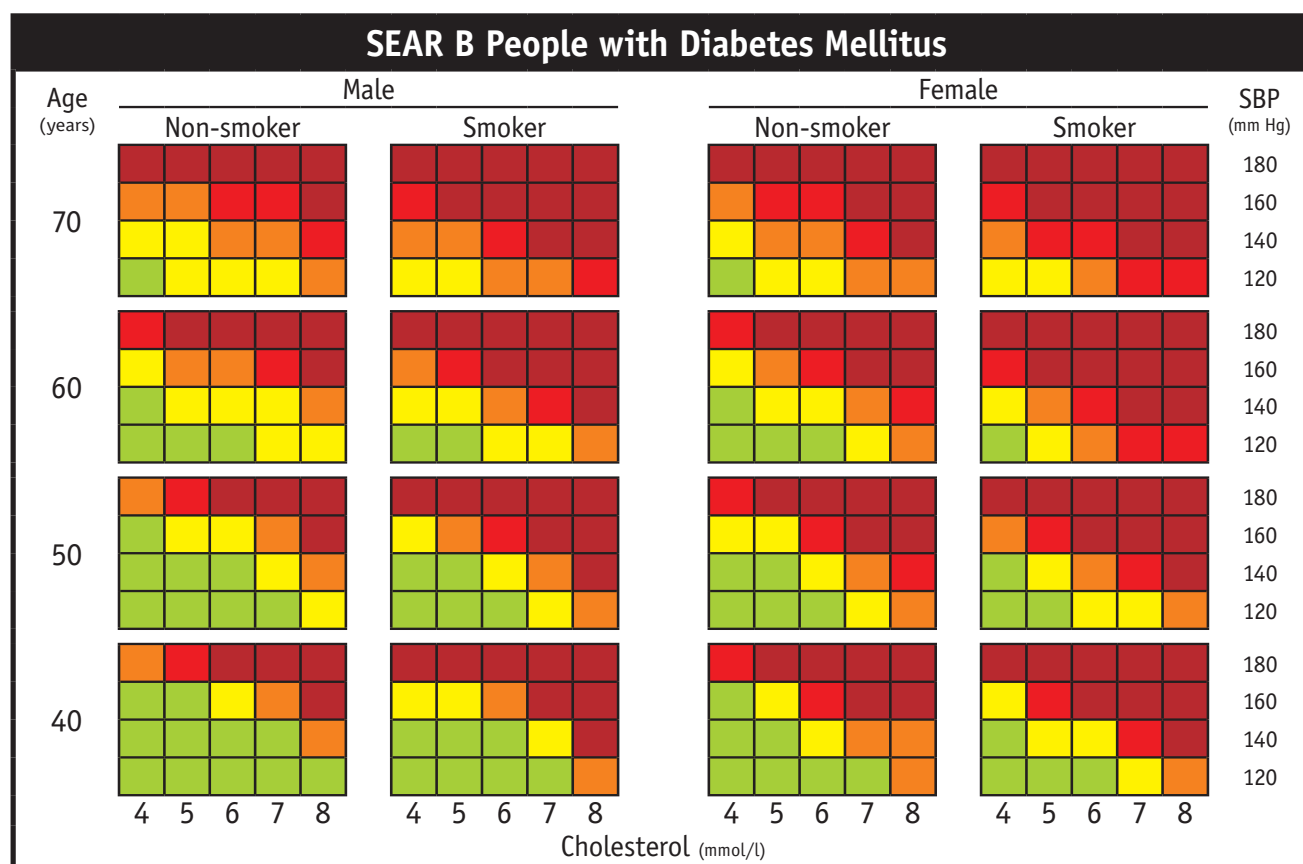
Charts in colour for use in settings where total blood cholesterol cannot be measured

Figure 23. WHO/ISH risk prediction chart for SEAR B

Figure 24. WHO/ISH risk prediction chart for SEAR D

Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

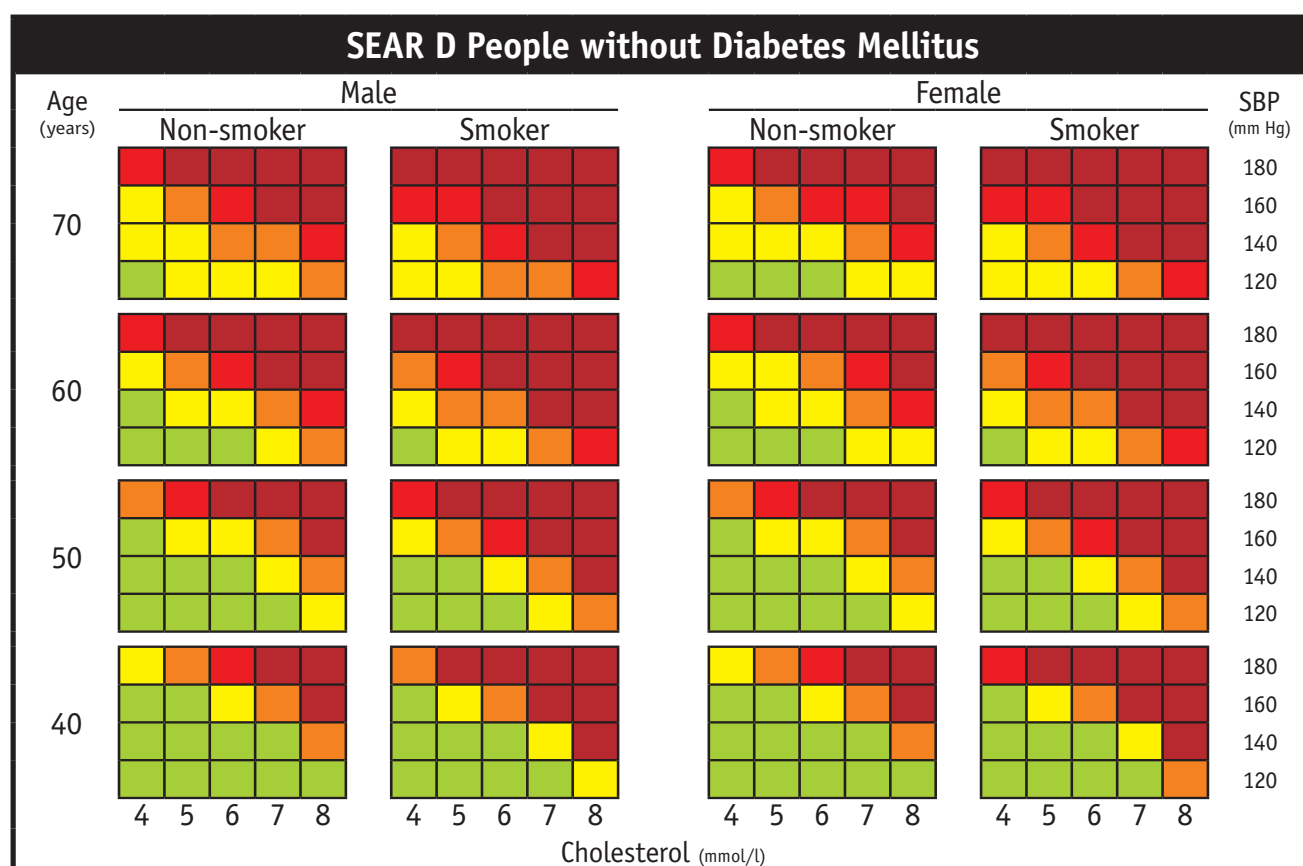
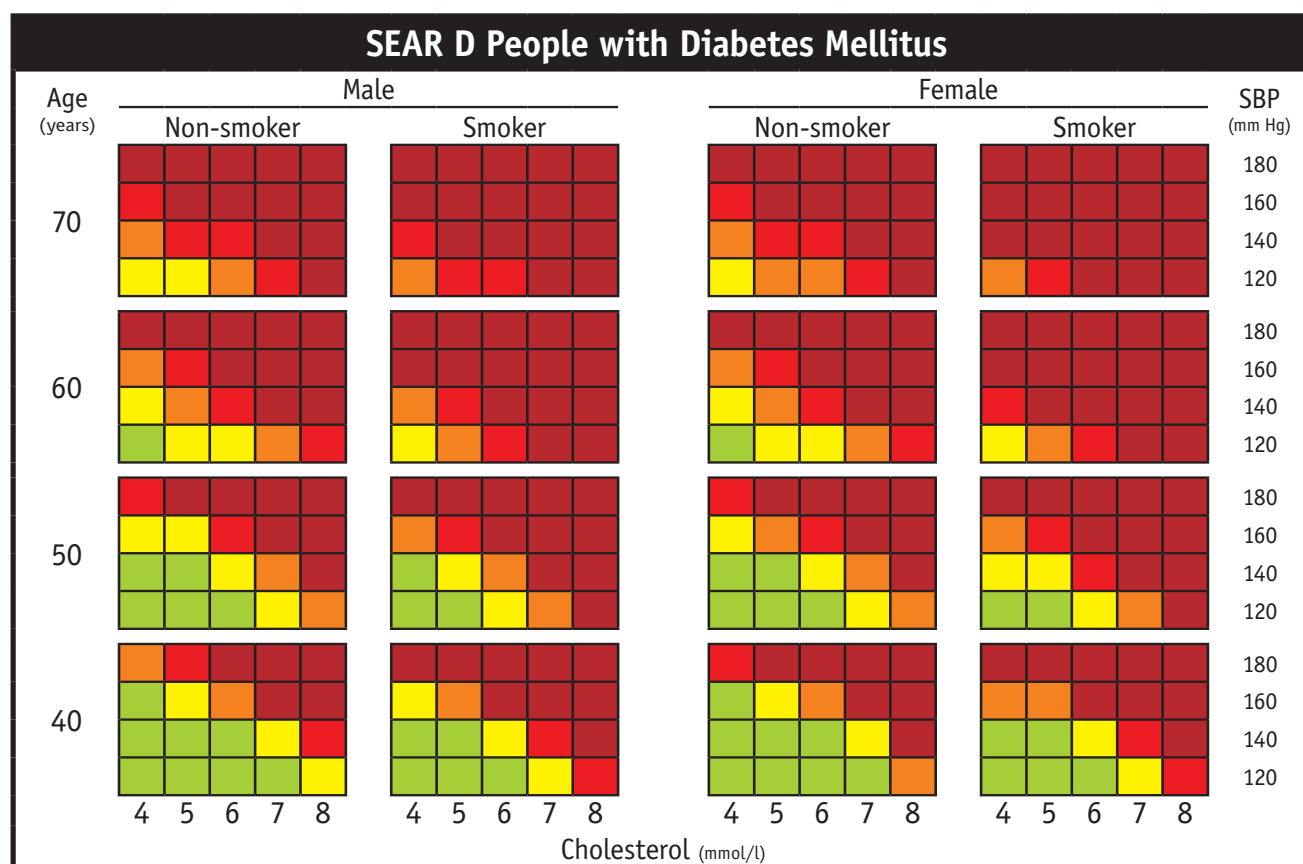
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (Indonesia, Sri Lanka, Thailand)

Figure 22. WHO/ISH risk prediction chart for SEAR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

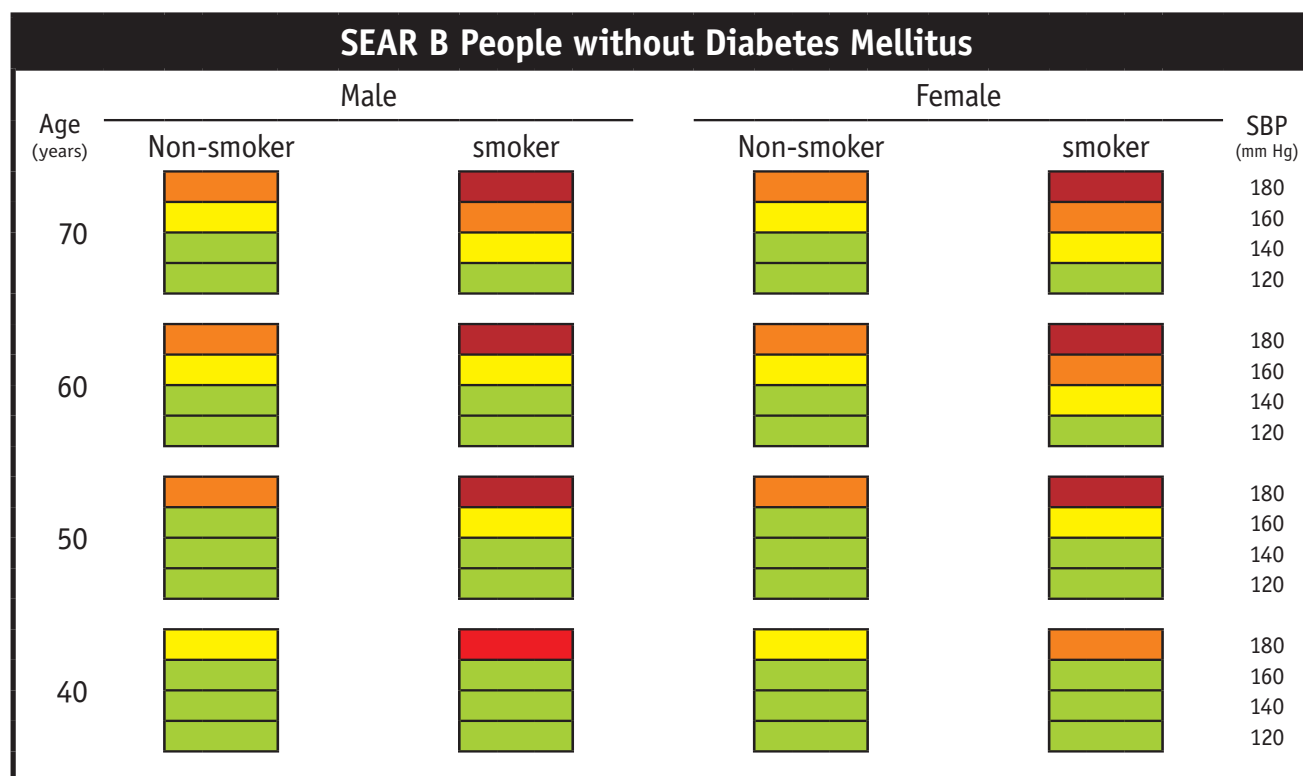
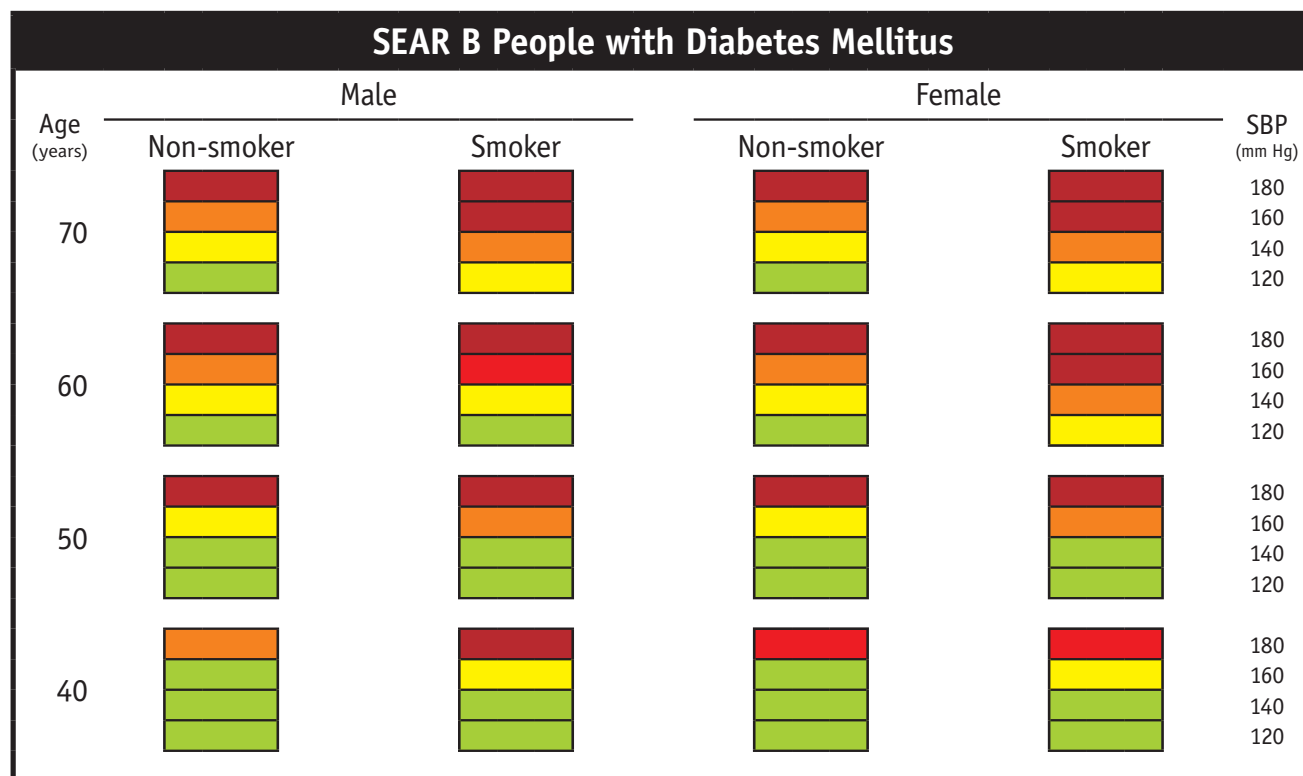
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of South-East Asia, sub-region D, in settings where blood cholesterol can be measured (Bangladesh, Bhutan, Republic of Korea, India, Maldives, Myanmar, Nepal).

Figure 23. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

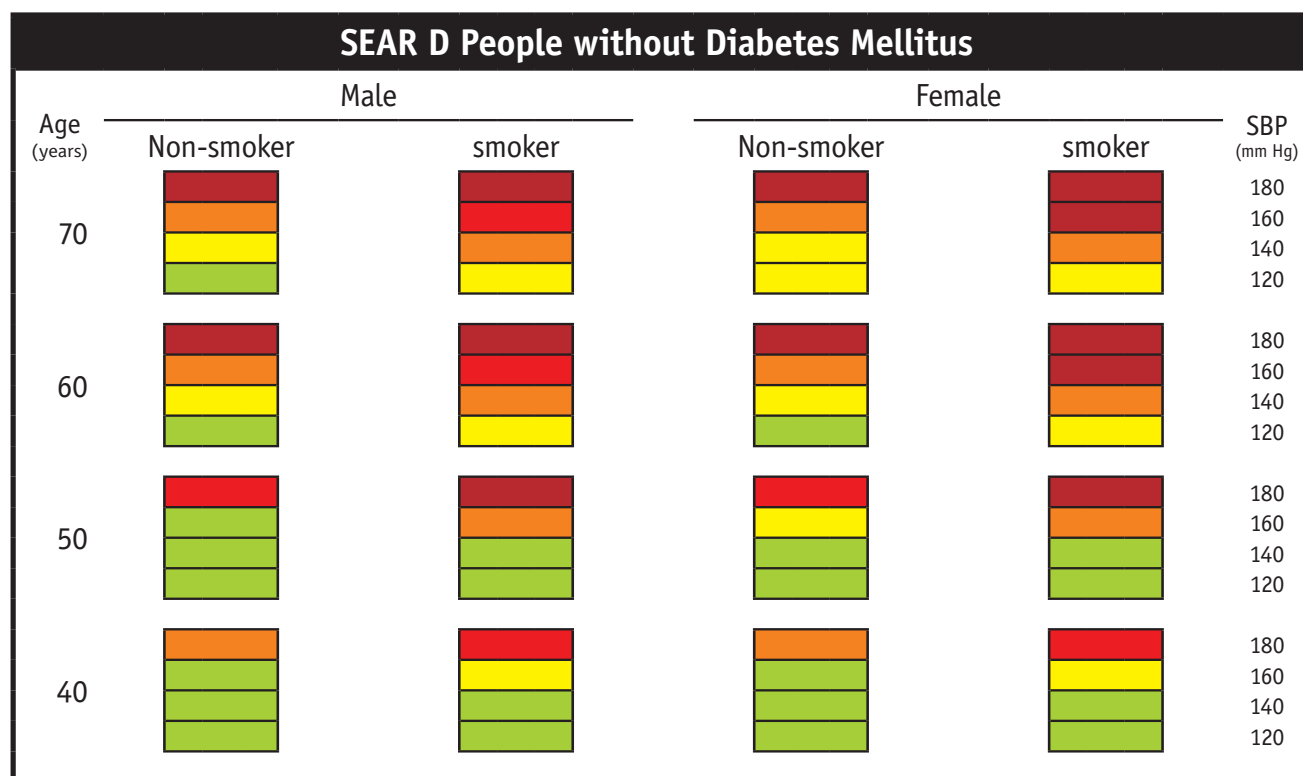
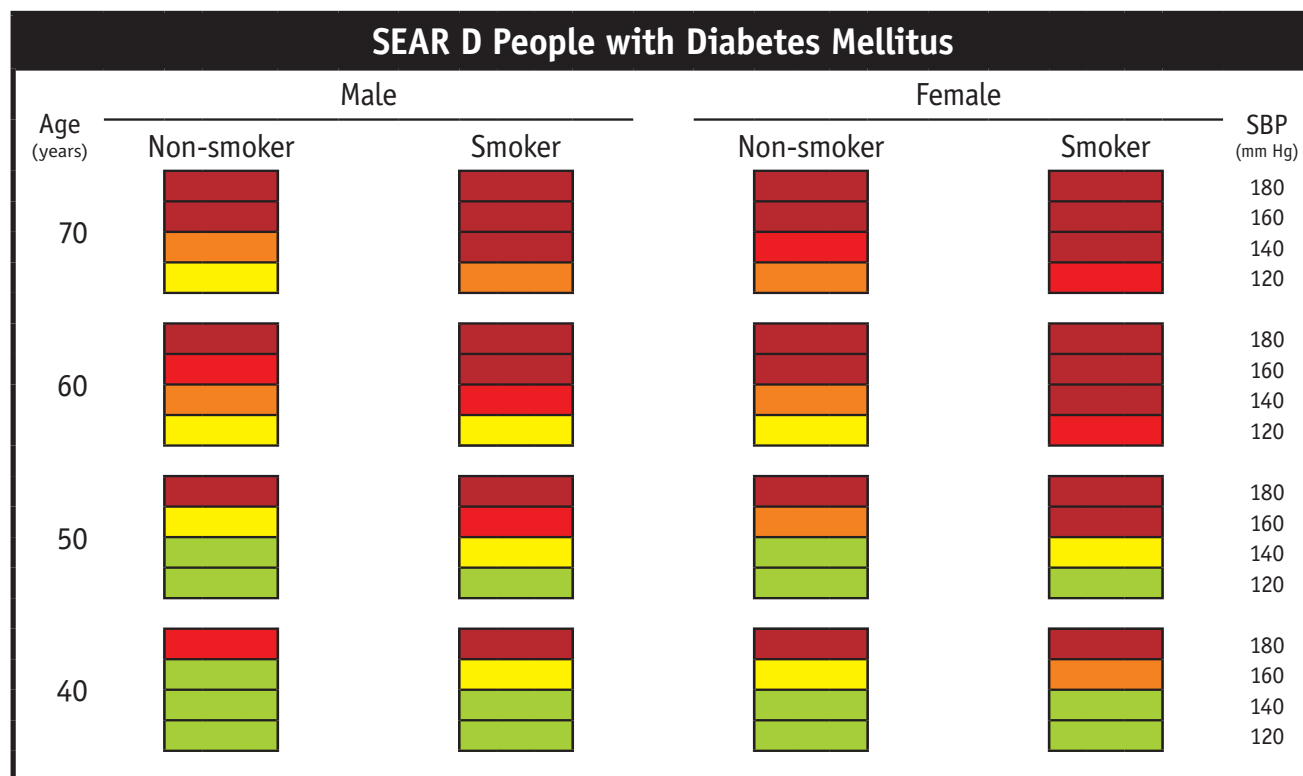
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol CANNOT be measured (Indonesia, Sri Lanka, Thailand).

Figure 24. WHO/ISH risk prediction chart for SEAR D. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of South-East Asia, sub-region D, in settings where blood cholesterol CANNOT be measured. (Bangladesh, Bhutan, Republic of Korea, India, Maldives, Myanmar, Nepal)

8. Western Pacific

WHO sub-regions WPR A, WPR B

Charts in colour for use in settings where total blood cholesterol can be measured

Figure 25. WHO/ISH risk prediction chart for WPR A

Figure 26. WHO/ISH risk prediction chart for WPR B

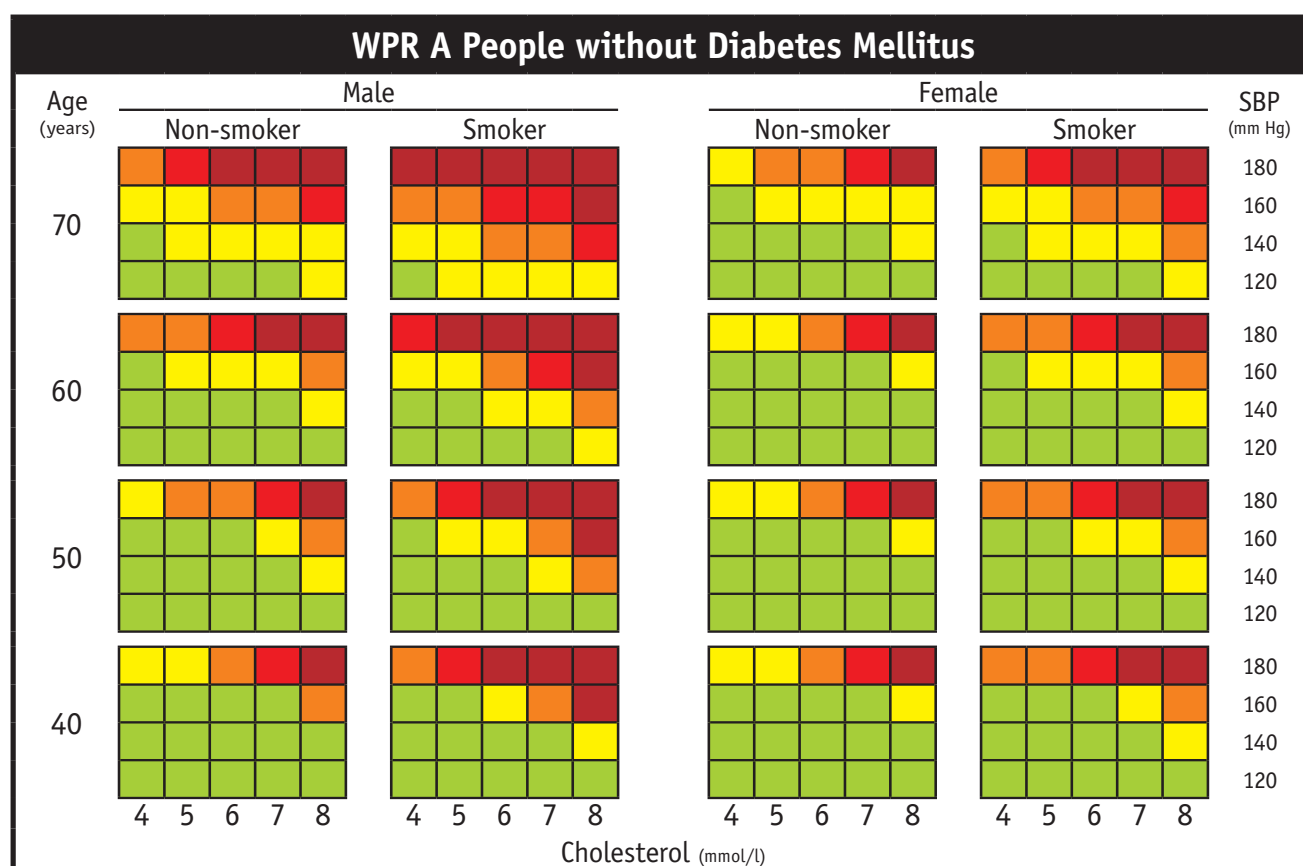
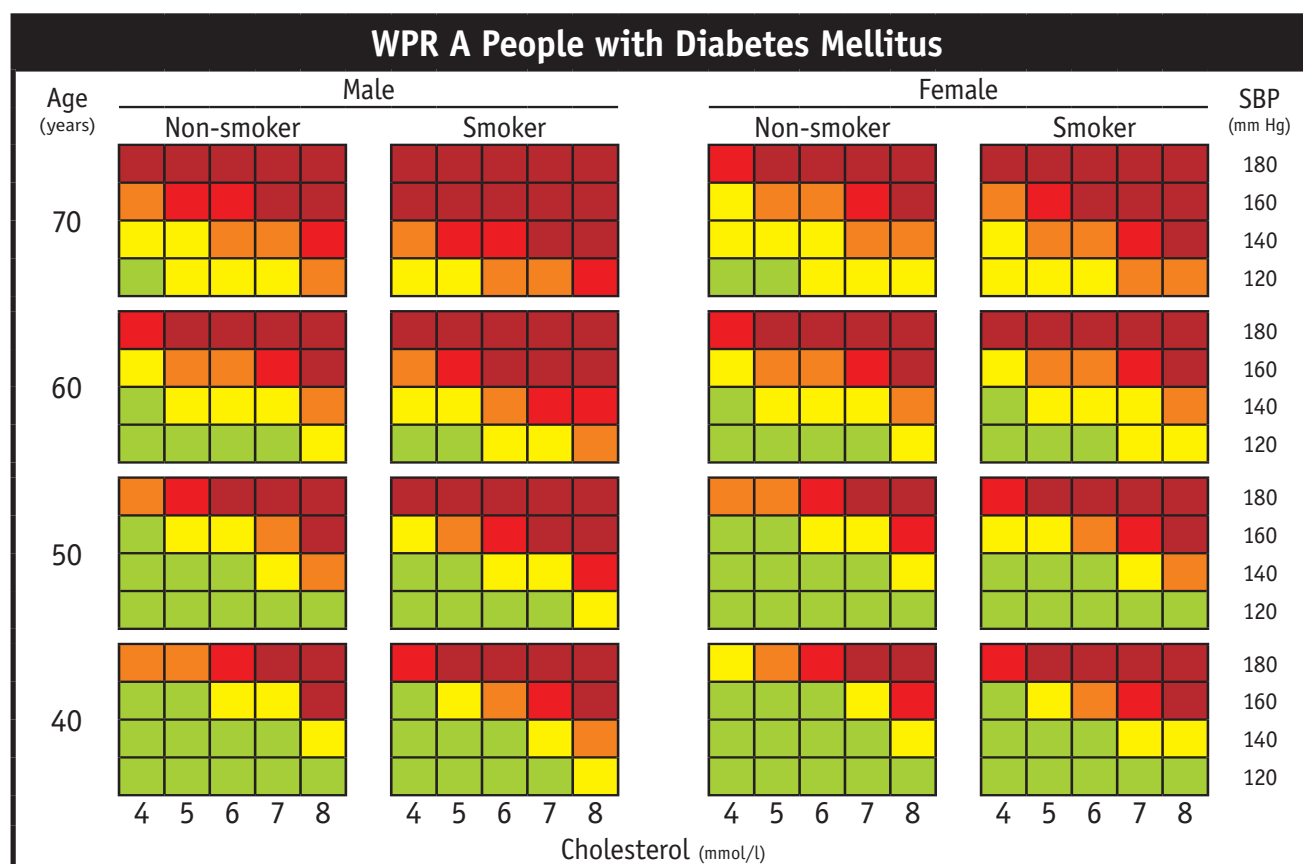
Charts in colour for use in settings where total blood cholesterol cannot be measured

Figure 27. WHO/ISH risk prediction chart for WPR A

Figure 27. WHO/ISH risk prediction chart for WPR B

Figure 25. WHO/ISH risk prediction chart for WPR A. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

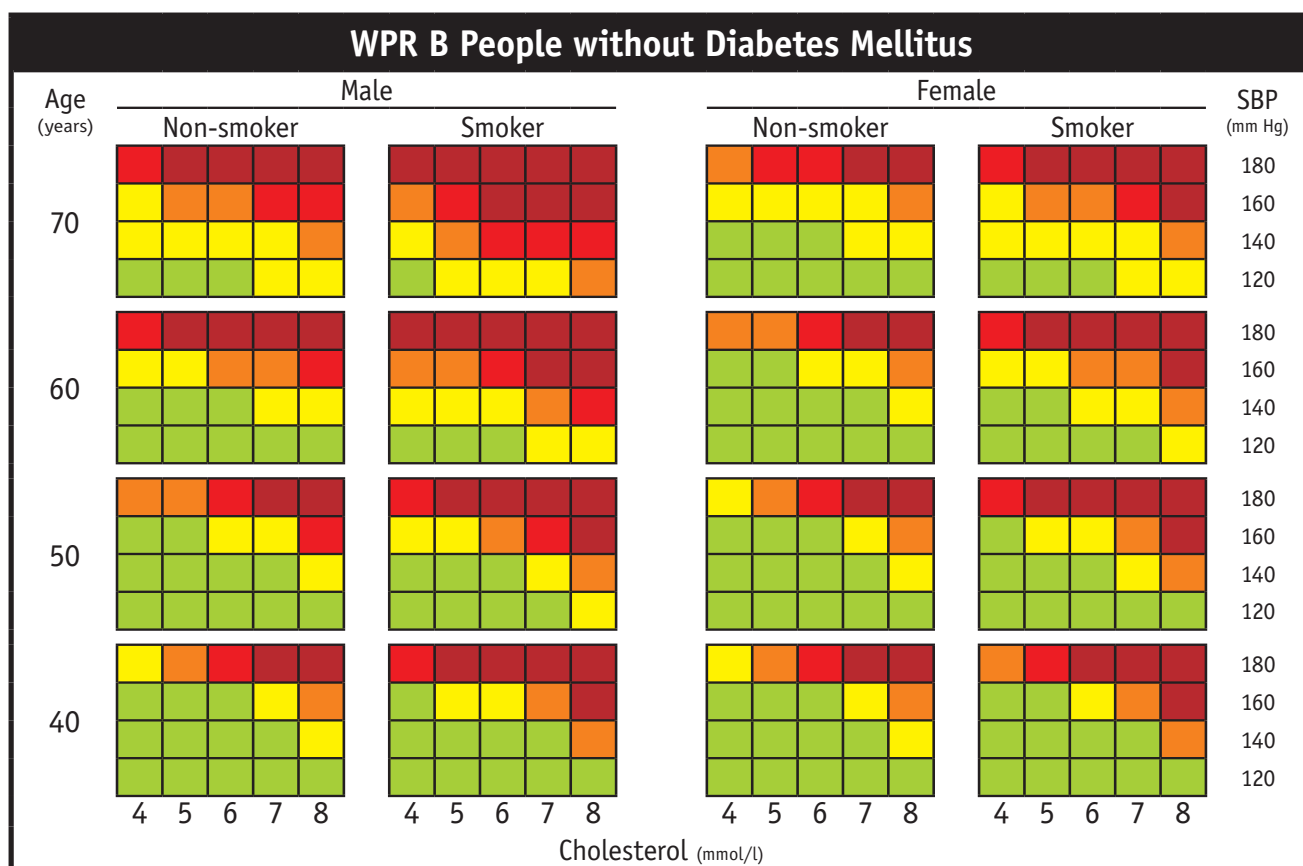
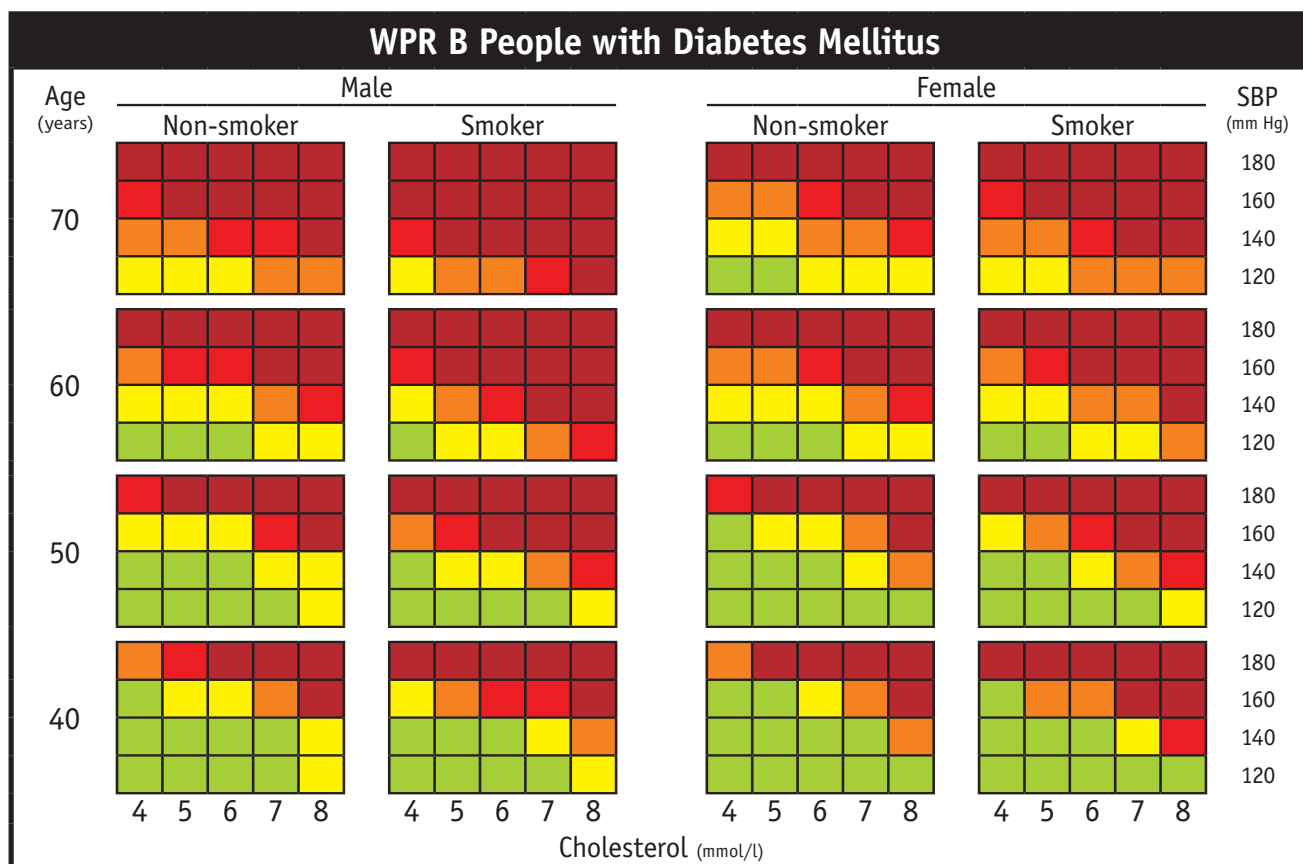
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Western Pacific, sub-region A, in settings where blood cholesterol can be measured (Australia, Brunei Darussalam, Japan, New Zealand, Singapore)

Figure 26. WHO/ISH risk prediction chart for WPR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

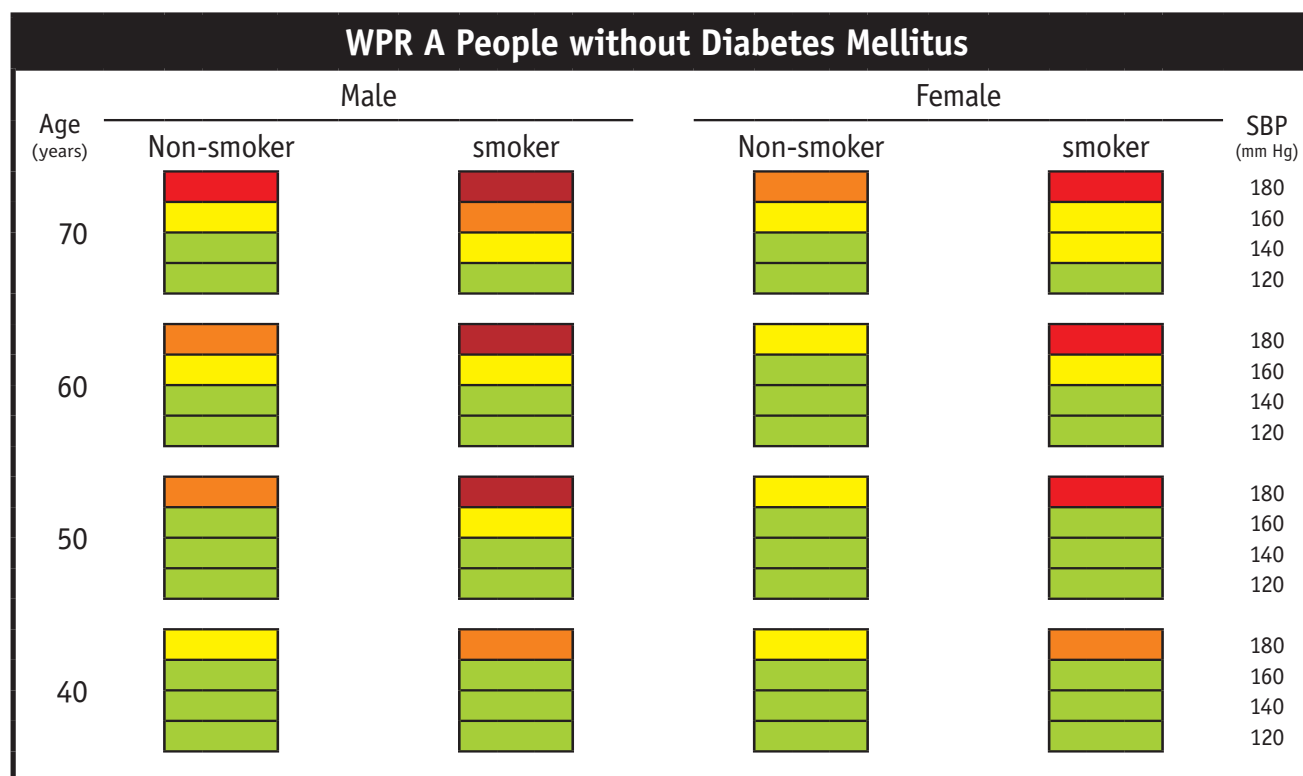
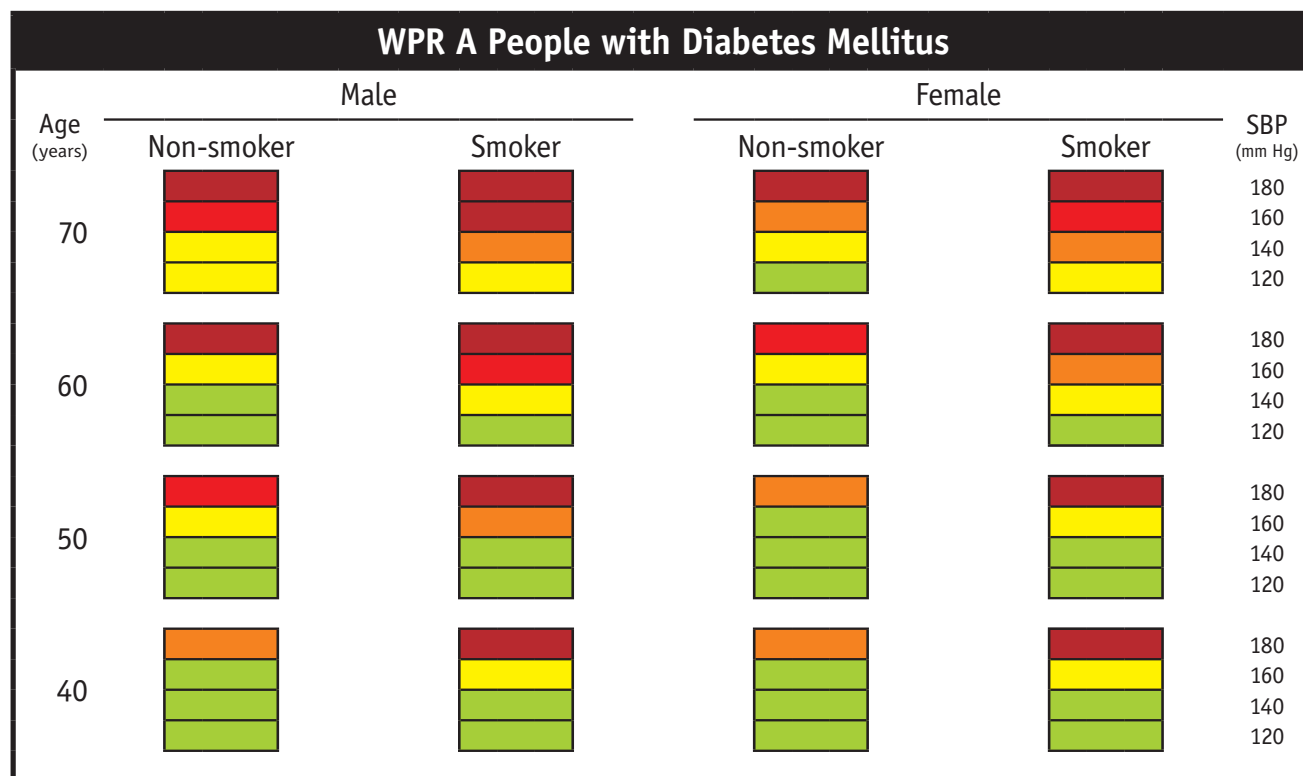
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Western Pacific, sub-region B, in settings where blood cholesterol can be measured (Cambodia, China, Cook Islands, Democratic People's Republic of Korea, Fiji, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam).

Figure 27. WHO/ISH risk prediction chart for WPR A. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

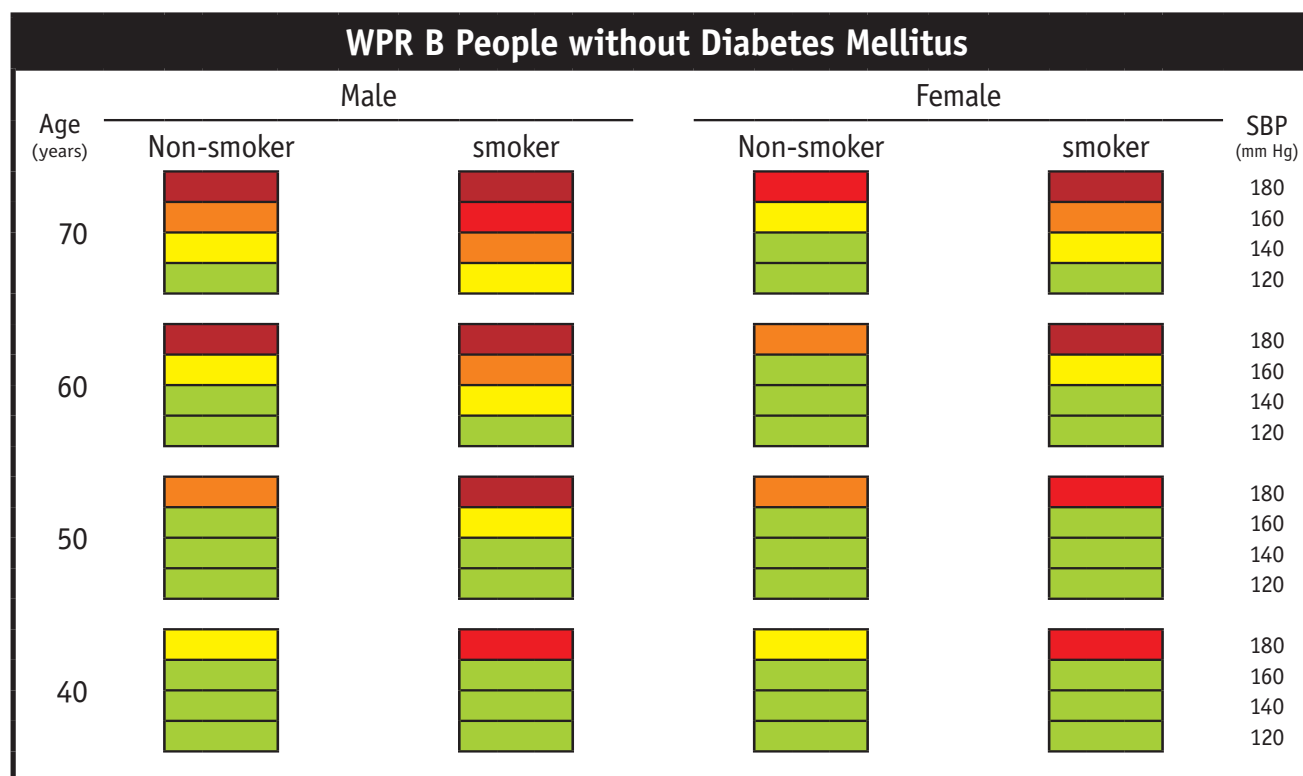
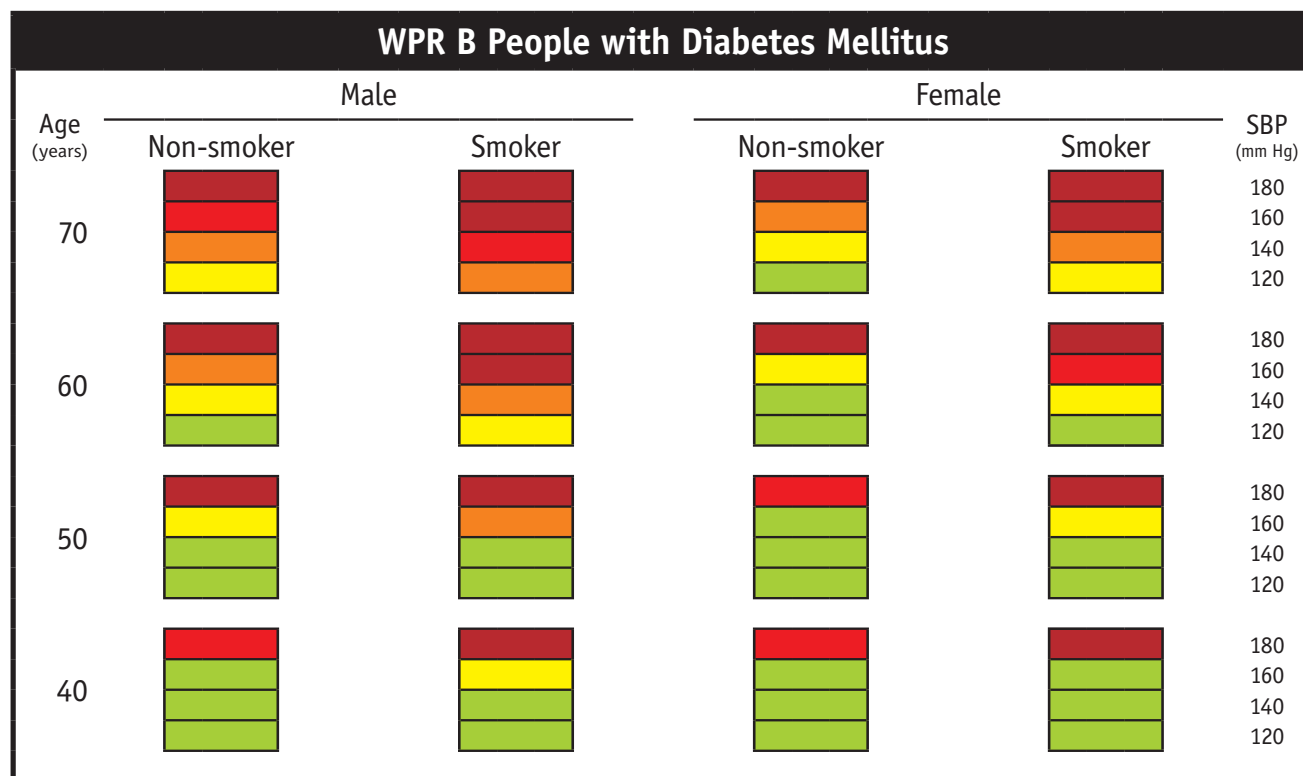
Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Western Pacific, sub-region A, in settings where blood cholesterol CANNOT be measured (Australia, Brunei Darussalam, Japan, New Zealand, Singapore).

Figure 28. WHO/ISH risk prediction chart for WPR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, smoking status and presence or absence of diabetes mellitus.

Risk Level ■ <10% ■ 10% to <20% ■ 20% to <30% ■ 30% to <40% ■ ≥40%



This chart can only be used for countries of the WHO Region of Western Pacific, sub-region B, in settings where blood cholesterol CANNOT be measured (Cambodia, China, Cook Islands, Democratic People's Republic of Korea, Fiji, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam).